



STIC Search Report

EIC 1700

STIC Database Tracking Number: 147572

**TO: Vickey Ronesi
Location: REM 10D24
Art Unit : 1714 1001
March 16, 2005**

Case Serial Number: 10/619643

**From: Kathleen Fuller
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov**

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



Fuller, Kathleen

147572

From: Ronesi, Vickey
Sent: Friday, March 11, 2005 9:31 AM
To: Fuller, Kathleen
Subject: Structure Search request

Hello Kathleen,

I was hoping that you could run a structure search for me. I think it'll be quick. In application 10/619,643, claim 24 has a specific structure. Note where R2-R7 cannot be a hydroxyl group (as well as alkoxy, aryloxy, NR2). Also, note that R cannot be an aromatic group. I'm not able to find art with a diaminoanthraquinone which doesn't have a mandatory -OH group and which is used in polymeric resins (I've found it used in gasoline and nematic liquid crystals, though).

I know it's the end of the quarter, so things are really busy over there. When do you think you could have this done? I'd really appreciate it.

Thanks!
Vickey

571-272-2701
Remsen 10D24
GAU 1714

=> FILE REG

FILE 'REGISTRY' ENTERED AT 14:58:10 ON 16 MAR 2005
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 15 MAR 2005 HIGHEST RN 845699-17-4
DICTIONARY FILE UPDATES: 15 MAR 2005 HIGHEST RN 845699-17-4

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLU

FILE 'HCAPLUS' ENTERED AT 14:58:15 ON 16 MAR 2005
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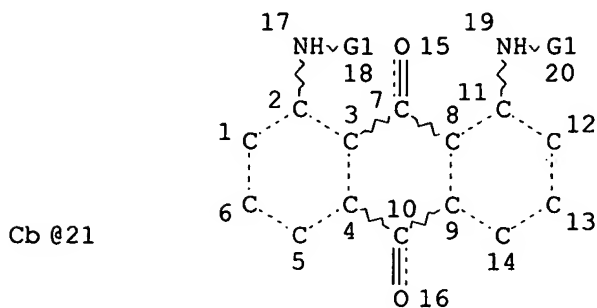
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FILE COVERS 1907 - 16 Mar 2005 VOL 142 ISS 12
FILE LAST UPDATED: 15 Mar 2005 (20050315/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> D QUE

L5 STR

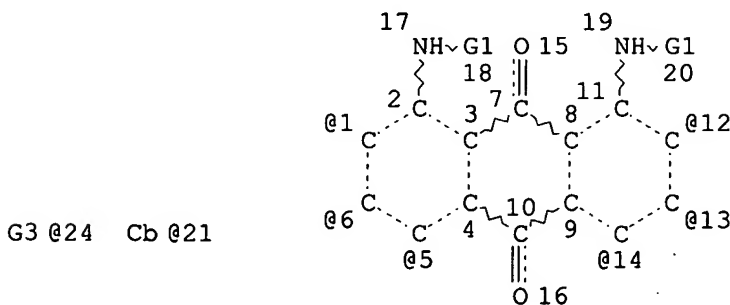


2,858 structures
from the query

VAR G1=H/AK/21/HY/OH
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DEFAULT MLEVEL IS ATOM
GGCAT IS SAT AT 21
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
L7 2858 SEA FILE=REGISTRY SSS FUL L5
L8 STR



2 subset searches
to get rid of
OH

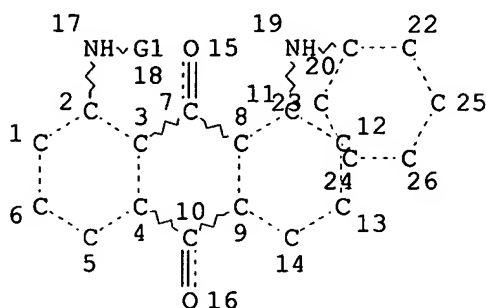
O~G2
@22 23

VAR G1=H/AK/21/HY/OH
VAR G2=AK/CB
VAR G3=OH/22
VPA 24-12/13/14/1/6/5 U
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT IS SAT AT 21
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L11 1598 SEA FILE=REGISTRY SUB=L7 SSS FUL L8
 L12 1260 SEA FILE=REGISTRY ABB=ON L7 NOT L11
 L13 STR



Cb @21

or aromatic

VAR G1=H/AK/21/HY/OH

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 21

DEFAULT ECLEVEL IS LIMITED

leaving 785 structures

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

L15 915 SEA FILE=REGISTRY SUB=L7 SSS FUL L13
 L16 785 SEA FILE=REGISTRY ABB=ON L12 NOT L15
 L18 770 SEA FILE=HCAPLUS ABB=ON L16
 L19 182 SEA FILE=HCAPLUS ABB=ON L18(L) PREP/RL
 L20 11 SEA FILE=HCAPLUS ABB=ON L19 AND (PLASTIC? OR POLYMER?)/SC,SX
 L21 4 SEA FILE=HCAPLUS ABB=ON L19(L) (RESIN? OR POLYMER? OR PLASTIC?)
 L22 36 SEA FILE=HCAPLUS ABB=ON L16(L) (RESIN? OR POLYMER? OR PLASTIC?)
 L23 16 SEA FILE=HCAPLUS ABB=ON L22 AND (POLYMER? OR PLASTIC?)/SC,SX
 L24 21 SEA FILE=HCAPLUS ABB=ON L20 OR L21 OR L23

=> D L24 BIB ABS IND HITSTR 1-21

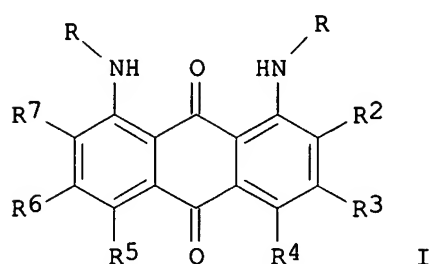
21 CA references with polymers or plastics

L24 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2005:58148 HCAPLUS
 DN 142:135646
 TI Colored polymeric resin composition containing anthraquinone derivatives,
 article made therefrom, and method for making the same
 IN Schottland, Philippe; Sivakumar, Krishnamoorthy; Sahoo, Binod Behari;
 Shankarling, Ganapati Subray; Ali Sait, Meerakani Mohamed; Dhalla, Adil
 Minoo
 PA USA
 SO U.S. Pat. Appl. Publ., 19 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

applicant

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 2005014878 A1 20050120 US 2003-619643 20030715
 WO 2005010090 A1 20050203 ~~WO 2004-US22490~~ 20040714
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG
 PRAI US 2003-619643 A 20030715
 GI



AB In one embodiment, a colored polymeric resin composition comprises: a polymeric resin; and a 1,8-anthraquinone derivative I having a purity of greater than or equal to about 90%: 1 wherein R2-R7 are, individually, selected from the group consisting of a hydrogen atom, a hydroxyl group, an alkoxy group, an aryloxy group, an aliphatic group, an aromatic group, a heterocyclic group, a halogen atom, a cyano group, a nitro group, -COR9, -COOR9, -NR9R10, -NR10COR11, -NR10SO2R11, -CONR9R10, -CONHSO2R11, and -SO2NHCOR11; in which R9 and R10 are, individually, selected from the group consisting of a hydrogen atom, an aliphatic group, an aromatic group, and a heterocyclic group; wherein R11 is selected from the group consisting of an aliphatic group, an aromatic group, and a heterocyclic group; and wherein R is selected from the group consisting of hydrogen, an alkyl group containing 1 to 20 carbon atoms, a cycloalkyl group containing 3 to 20 carbon atoms, an allyl group containing

3 to 20 carbon atoms, a hydroxyl group, a 5-membered heterocyclic ring, and a 6-membered heterocyclic ring. A composition contained optical quality polycarbonate and 1,8-bis(cyclohexylamino)anthraquinone.

IC ICM C08K005-08

NCL 524242000

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 41

ST anthraquinone colorant plastic

IT Coloring materials

(colored polymeric resin composition containing anthraquinone derivs., article

made therefrom, and method for making the same)

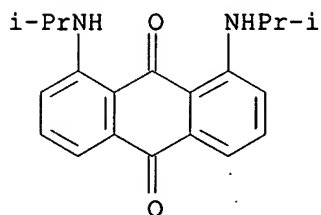
IT Polycarbonates, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

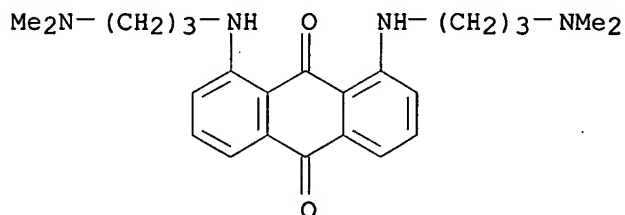
(colored polymeric resin composition containing anthraquinone derivs.,

article

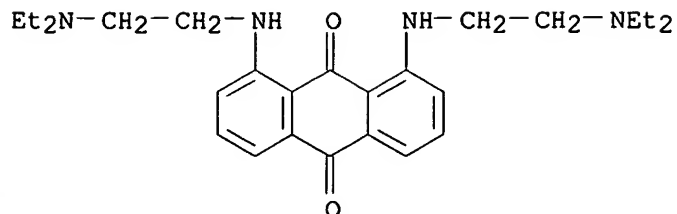
made therefrom, and method for making the same)
 IT 1614-59-1P 33175-76-7P, 1,5-Bis(isopropylamino) anthraquinone
 60316-44-1P, 1,8-Bis(isopropylamino) anthraquinone
 70711-39-6P 75312-57-1P 478695-69-1P
 825190-77-0P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); **PREP (Preparation)**; USES (Uses)
 (colorant; colored **polymeric resin** composition containing
 anthraquinone derivs., article made therefrom, and method for making
 the same)
 IT 75-31-0, Isopropyl amine, reactions 82-43-9, 1,8-Dichloroanthraquinone
 82-46-2, 1,5-Dichloroanthraquinone 100-36-7, N,N-Diethylethylenediamine
 104-75-6, 2-Ethylhexylamine 108-91-8, Cyclohexylamine, reactions
 109-55-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (colored polymeric resin composition containing anthraquinone derivs.,
 article
 made therefrom, and method for making the same)
 IT 60316-44-1P, 1,8-Bis(isopropylamino) anthraquinone
 70711-39-6P 75312-57-1P 478695-69-1P
 825190-77-0P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); **PREP (Preparation)**; USES (Uses)
 (colorant; colored **polymeric resin** composition containing
 anthraquinone derivs., article made therefrom, and method for making
 the same)
 RN 60316-44-1 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-bis[(1-methylethyl)amino]- (9CI) (CA INDEX
 NAME)



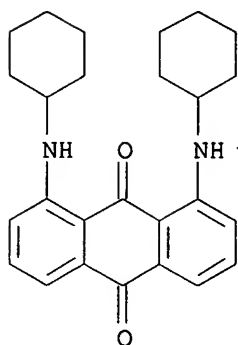
RN 70711-39-6 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-bis[[3-(dimethylamino)propyl]amino]- (9CI) (CA
 INDEX NAME)



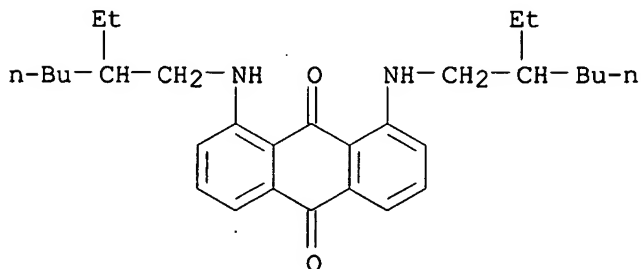
RN 75312-57-1 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-bis[[2-(diethylamino)ethyl]amino]- (9CI) (CA
 INDEX NAME)



RN 478695-69-1 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-bis(cyclohexylamino)- (9CI) (CA INDEX NAME)



RN 825190-77-0 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-bis[(2-ethylhexyl)amino]- (9CI) (CA INDEX NAME)



L24 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:869003 HCAPLUS
 DN 137:354388
 TI Dichroic mixtures, their production and their use
 IN Buchecker, Richard; Cherkaoui, Zoubair M.; Peglow, Thomas; Moia, Franco
 PA Rolic A.-G., Switz.
 SO PCT Int. Appl., 54 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

PI	WO 2002090447	A1	20021114	WO 2002-CH44	20020128
	WO 2002090447	C1	20040129		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1256602	A1	20021113	EP 2001-810445	20010508
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	EP 1385914	A1	20040204	EP 2002-715349	20020128
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004535483	T2	20041125	JP 2002-587515	20020128
	US 2004164272	A1	20040826	US 2004-477124	20040408
PRAI	EP 2001-810445	A	20010508		
	WO 2002-CH44	W	20020128		

AB Disclosed are mesogenic, crosslinkable mixts. comprising at least one polymerizable liquid crystal and at least one polymerizable dichroic dye of the type ABlwB2xB3yB4z [A is a dichroic residue exhibiting at least partial absorption in the visible region (>400 nm); w-z are 0 or 1 whereby $w + x + y + z > 0$; B1-B4 are H or organic groups, at least one of which is polymerizable]. Such mixts. may be polymerized to give dichroic plastic films with useful optical properties. In an example, dichroic 6-[4-[4-[6-(acryloyloxy)hexyloxy]phenoxy]phenoxy]hexyl 1,4-diaminoanthraquinone-2-carboxylate was prepared and then combined with 1-4 liquid crystalline monomers having 2 acrylate groups, providing

polymerizable

dichroic liquid crystalline compns.

IC C09B069-10; C09K019-38; G02B005-30

CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 25, 38, 75

ST dichroic polymerizable dye prodn liq cryst monomer polymn

IT Anthraquinone dyes

Liquid crystals

(dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT Azo dyes

Dyes

(dichroic; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT Azo dyes

Dyes

(polymerizable; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT Liquid crystals, polymeric

(polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT Polyamides, uses

Polyimides, uses

RL: NUU (Other use, unclassified); USES (Uses)

(substrates for polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

- IT 474901-12-7P 474901-17-2P 474901-18-3P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (blue dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-21-8P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (brown dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 86-56-6, 1-(Dimethylamino)naphthalene 90-15-3, 1-Naphthol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (coupling component; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 10336-21-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (diazo component intermediate; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 100-01-6, 4-Nitroaniline, reactions 79779-19-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (diazo component; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 2009-84-9P 170366-17-3P 199917-34-5P 474901-22-9P 474901-23-0P
 474901-24-1P 474901-25-2P 474901-26-3P 474901-27-4P 474901-28-5P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (dye intermediate; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 79-10-7, Acrylic acid, reactions 90-02-8, Salicylaldehyde, reactions 110-87-2 123-31-9, Hydroquinone, reactions 128-95-0, 1,4-Diaminoanthraquinone 623-05-2, 4-Hydroxybenzyl alcohol 814-68-6, Acryloyl chloride 2009-83-8, 6-Chlorohexanol 2058-02-8 7789-60-8, Phosphorus tribromide 91652-00-5 93629-68-6 133122-99-3, 6-Iodoethyl acrylate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dye starting material; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-13-8P 474901-14-9P 474901-15-0P 474901-19-4P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 128-95-0D, derivs. 129-42-0D, derivs. 129-44-2D, derivs. 2475-45-8D, derivs. 6407-69-8D, derivs.
 RL: TEM (Technical or engineered material use); USES (Uses)
 (dyes; dichroic mixts. of **polymerizable** dyes and monomeric liquid crystals)
- IT 474901-29-6P 474901-30-9P 474901-31-0P 474901-33-2P 474901-35-4P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-16-1P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (violet dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-20-7P

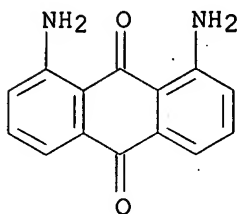
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(yellow-orange dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT 129-42-0D, derivs. 2475-45-8D, derivs.
6407-69-8D, derivs.

RL: TEM (Technical or engineered material use); USES (Uses)
(dyes; dichroic mixts. of **polymerizable** dyes and monomeric liquid crystals)

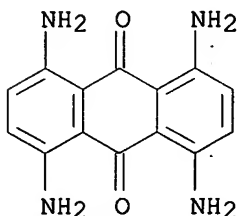
RN 129-42-0 HCAPLUS

CN 9,10-Anthracenedione, 1,8-diamino- (9CI) (CA INDEX NAME)



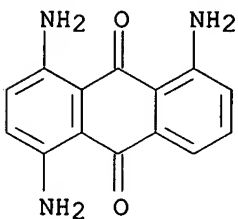
RN 2475-45-8 HCAPLUS

CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



RN 6407-69-8 HCAPLUS

CN 9,10-Anthracenedione, 1,4,5-triamino- (9CI) (CA INDEX NAME)



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:866700 HCAPLUS

DN 137:354386

TI Dichroic mixtures, their production and their use

IN Buchecker, Richard; Peglow, Thomas; Cherkaoui, Zoubair M.; Moia, Franco

PA Rolic A.-G., Switz.
 SO Eur. Pat. Appl., 30 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1256602	A1	20021113	EP 2001-810445	20010508
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	WO 2002090447	A1	20021114	WO 2002-CH44	20020128
	WO 2002090447	C1	20040129		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
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	EP 1385914	A1	20040204	EP 2002-715349	20020128
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004535483	T2	20041125	JP 2002-587515	20020128
	US 2004164272	A1	20040826	US 2004-477124	20040408
PRAI	EP 2001-810445	A	20010508		
	WO 2002-CH44	W	20020128		

AB Disclosed are mesogenic, crosslinkable mixts. comprising at least one polymerizable liquid crystal and at least one polymerizable dichroic dye of the type ABlwB2xB3yB4z [A is a dichroic residue exhibiting at least partial absorption in the visible region (>400 nm); w-z are 0 or 1 whereby $w + x + y + z > 0$; B1-B4 are H or organic groups, at least one of which is polymerizable]. Such mixts. may be polymerized to give dichroic plastic films with useful optical properties. In an example, dichroic 6-[4-[4-[6-(acryloyloxy)hexyloxy]phenoxy]phenoxycarbonyl]phenoxy]hexyl 1,4-diaminoanthraquinone-2-carboxylate dye was prepared and then combined with 1-4 liquid crystalline monomers having 2 acrylate groups, providing polymerizable dichroic liquid crystalline compns.

IC ICM C09B069-10

ICS C09K019-38; G02B005-30

CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 25, 38, 75

ST dichroic polymerizable dye prodn liq cryst monomer polymn

IT Liquid crystals

(dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT Azo dyes

Dyes

(dichroic; polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT Azo dyes

Dyes

(polymerizable; polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT Anthraquinone dyes

Liquid crystals, polymeric

- (polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT Polyamides, uses
Polyimides, uses
RL: NUU (Other use, unclassified); USES (Uses)
(substrates for polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-12-7P 474901-17-2P 474901-18-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(blue dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-21-8P
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(brown dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 86-56-6, 1-(Dimethylamino)naphthalene 90-15-3, 1-Naphthol
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling component; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 10336-21-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(diaz component intermediate; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 79779-19-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(diaz component; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 100-01-6, 4-Nitroaniline, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(diaz component; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 2009-84-9P 170366-17-3P 199917-34-5P 474901-22-9P 474901-23-0P
474901-24-1P 474901-25-2P 474901-26-3P 474901-27-4P 474901-28-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(dye intermediate; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 79-10-7, Acrylic acid, reactions 90-02-8, Salicylaldehyde, reactions
110-87-2, Dihydropyran 123-31-9, Hydroquinone, reactions 128-95-0,
1,4-Diaminoanthraquinone 623-05-2, 4-Hydroxybenzyl alcohol 814-68-6,
Acryloyl chloride 2009-83-8, 6-Chlorohexanol 2058-02-8,
1-Amino-4-nitroanthraquinone-2-carboxylic acid 7789-60-8, Phosphorus
tribromide 91652-00-5, 4-[6-(Methacryloyloxy)hexyloxy]benzoic acid
93629-68-6 133122-99-3, 6-Iodoethyl acrylate
RL: RCT (Reactant); RACT (Reactant or reagent)
(dye starting material; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-14-9P
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)
- IT 474901-13-8P 474901-15-0P 474901-19-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT 128-95-0D, 1,4-Diaminoanthraquinone, derivs. **129-42-0D**, 1,8-Diaminoanthraquinone, derivs. 129-44-2D, 1,5-Diaminoanthraquinone, derivs. **2475-45-8D**, 1,4,5,8-Tetraaminoanthraquinone, derivs. **6407-69-8D**, 1,4,5-Triaminoanthraquinone, derivs.

RL: TEM (Technical or engineered material use); USES (Uses)
(dyes; dichroic mixts. of **polymerizable** dyes and monomeric liquid crystals)

IT 474901-29-6P 474901-30-9P 474901-31-0P 474901-33-2P 474901-35-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polymers from dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT 474901-16-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(violet dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT 474901-20-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

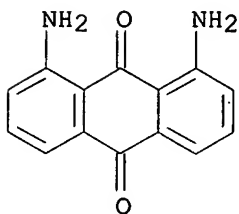
(yellow-orange dye; dichroic mixts. of polymerizable dyes and monomeric liquid crystals)

IT **129-42-0D**, 1,8-Diaminoanthraquinone, derivs. **2475-45-8D**, 1,4,5,8-Tetraaminoanthraquinone, derivs. **6407-69-8D**, 1,4,5-Triaminoanthraquinone, derivs.

RL: TEM (Technical or engineered material use); USES (Uses)
(dyes; dichroic mixts. of **polymerizable** dyes and monomeric liquid crystals)

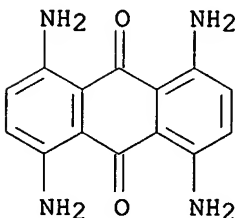
RN 129-42-0 HCAPLUS

CN 9,10-Anthracenedione, 1,8-diamino- (9CI) (CA INDEX NAME)

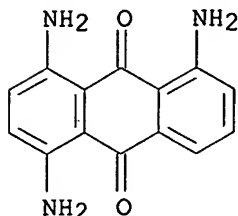


RN 2475-45-8 HCAPLUS

CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



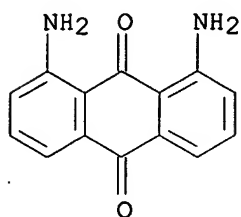
RN 6407-69-8 HCAPLUS
 CN 9,10-Anthracenedione, 1,4,5-triamino- (9CI) (CA INDEX NAME)



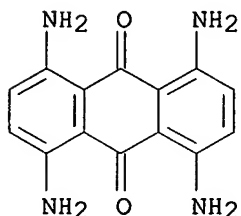
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L24 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:108929 HCAPLUS
 DN 124:177610
 TI Effect of anthraquinones containing electron-donor substituents on the photodegradation of polymers in the presence of oxygen
 AU Studzinskii, O. P.; Ponomareva, R. P.; Proskuryakova, T. V.
 CS St. Petersburg. Torgovo-Ekon. Inst., Russia
 SO Zhurnal Organicheskoi Khimii (1995), 31(6), 900-3
 CODEN: ZORKAE; ISSN: 0514-7492
 PB Nauka
 DT Journal
 LA Russian
 AB The effect of electron-donor substituent-containing anthraquinone derivs. capable of photogeneration of singlet O on the photodegrdn. of polystyrene, PMMA, and cellulose triacetate in air and in O atmospheric was compared. The differences in the photodegrdn. process occurring during irradiation with visible light and UV irradiation are discussed.
 CC 37-4 (Plastics Manufacture and Processing)
 ST polymer oxidative photochem degrdn anthraquinone deriv; electron donor deriv anthraquinone polymer degrdn; cellulose triacetate degrdn anthraquinone deriv; PMMA degrdn anthraquinone deriv; polystyrene degrdn anthraquinone deriv
 IT Polymer degradation
 (oxidative, photochem., effect of anthraquinones containing electron-donor substituents on the photodegrdn. of polymers in the presence of oxygen)
 IT 82-45-1, 1-Aminoanthraquinone 116-85-8, 1-Amino-4-hydroxyanthraquinone 117-79-3, 2-Aminoanthraquinone 128-95-0, 1,4-Diaminoanthraquinone 129-42-0, 1,8-Diaminoanthraquinone 129-44-2, 1,5-Diaminoanthraquinone 131-14-6, 2,6-Diaminoanthraquinone 1758-68-5, 1,2-Diaminoanthraquinone 2475-45-8, 1,4,5,8-Tetraaminoanthraquinone 2872-48-2, 1,4-Diamino-2-methoxyanthraquinone
 RL: MOA (Modifier or additive use); USES (Uses)
 (effect of anthraquinones containing electron-donor substituents on the photodegrdn. of polymers in the presence of oxygen)
 IT 7782-44-7, Oxygen, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (effect of anthraquinones containing electron-donor substituents on the photodegrdn. of polymers in the presence of oxygen)
 IT 9003-53-6, Polystyrene 9011-14-7, PMMA 9012-09-3, Cellulose triacetate
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (effect of anthraquinones containing electron-donor substituents on the

photodegrdn. of polymers in the presence of oxygen)
 IT 129-42-0, 1,8-Diaminoanthraquinone 2475-45-8,
 1,4,5,8-Tetraaminoanthraquinone
 RL: MOA (Modifier or additive use); USES (Uses)
 (effect of anthraquinones containing electron-donor substituents on the
 photodegrdn. of polymers in the presence of oxygen)
 RN 129-42-0 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-diamino- (9CI) (CA INDEX NAME)

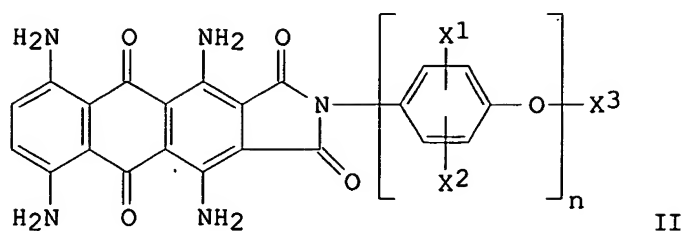


RN 2475-45-8 HCAPLUS
 CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



L24 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1992:176106 HCAPLUS
 DN 116:176106
 TI Tetraaminoanthraquinone dyes and their use in preparation of polymeric
 liquid crystals
 IN Etzbach, Karl Heinz; Hauptreif, Manfred
 PA BASF A.-G., Germany
 SO Eur. Pat. Appl., 25 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 460496	A1	19911211	EP 1991-108643	19910528
	EP 460496	B1	19941130		
	R: CH, DE, FR, GB, IT, LI				
	DE 4018229	A1	19911212	DE 1990-4018229	19900607
	JP 04226160	A2	19920814	JP 1991-133915	19910605
PRAI	DE 1990-4018229	A	19900607		
OS	MARPAT 116:176106				
GI					



AB 1,4,5,8-Tetraamino-2,3-dicyanoanthraquinone (I) and II ($n = 0, 1$; $X1, X2 = H, C1-4\text{-alkyl, halogen}$; $X3 = H, C1-26\text{-alkyl optionally containing O ether links and substituted by CN, halogen, OH, amino, vinyl, C1-6-alkanoyloxy, C3-4-alkenoyloxy, or C3-4-haloalkenoyloxy}$) are obtained. Thus, I was prepared (22% yield) from tetraaminoanthraquinone and $BF_3 \cdot OEt_2$, followed by NaCN treatment, and hydrolyzed in H_2SO_4 to give 63% 1,4,5,8-tetraamino-2,3-anthraquinonedicarboximide (III). III was treated with 11-bromoundecyl acrylate to provide 38% II [$n = 0, X3 = (CH_2)_{11}O_2CCH:CH_2$].

IC ICM C09B001-22

ICS C09B005-62

CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 35, 75

ST anthraquinonedicarboximide monomer liq cryst polymer; aminoanthraquinone dye polymerizable

IT Liquid crystals, polymeric

(polymerizable anthraquinone dyes for)

IT Dyes, anthraquinone

(polymerizable, tetraamine dicarboxylic acid derivs., for liquid crystals)

IT Siloxanes and Silicones, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

((cyanobiphenyloxy)hexyl Me, Me (tetraaminoanthraquinonedicarboximido)undecyl, preparation of colored liquid-crystalline)

IT 592-55-2, 2-Bromoethyl ethyl ether 33795-48-1, 11-Bromoundecyl acrylate

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkylation by, of tetraaminoanthraquinonedicarboximide)

IT 2475-45-8, 1,4,5,8-Tetraaminoanthraquinone

RL: RCT (Reactant); RACT (Reactant or reagent)

(cyanation of)

IT 140165-46-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and alkylation of)

IT 140165-45-3P, 1,4,5,8-Tetraamino-2,3-dicyanoanthraquinone

RL: IMF (Industrial manufacture); RCT (Reactant); **PREP**

(Preparation); RACT (Reactant or reagent)

(preparation and hydrolytic cyclization of)

IT 140165-47-5P 140165-48-6P

RL: IMF (Industrial manufacture); PREP (Preparation)

(preparation of)

IT 140165-15-7P 140165-49-7DP, reaction products with Me hydrogen siloxanes

140165-50-0DP, reaction products with Me hydrogen siloxanes

RL: IMF (Industrial manufacture); PREP (Preparation)

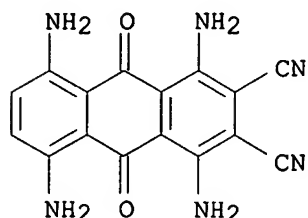
(preparation of liquid-crystalline)

IT 143-33-9, Sodium cyanide

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with tetraaminoanthraquinone)

IT 140165-45-3P, 1,4,5,8-Tetraamino-2,3-dicyanoanthraquinone
 RL: IMF (Industrial manufacture); RCT (Reactant); **PREP**
 (Preparation); RACT (Reactant or reagent)
 (preparation and hydrolytic cyclization of)
 RN 140165-45-3 HCAPLUS
 CN 2,3-Anthracenedicarbonitrile, 1,4,5,8-tetraamino-9,10-dihydro-9,10-dioxo-
 (9CI) (CA INDEX NAME)



L24 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1991:494417 HCAPLUS
 DN 115:94417
 TI Polyesters colored with residues of heat-stable anthraquinone compounds
 and containers fabricated from them
 IN Krutak, James John; Coates, Clarence Alvin; Parham, William Whitfield
 PA Eastman Kodak Co., USA
 SO Eur. Pat. Appl., 24 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 415859	A1	19910306	EP 1990-420391	19900831
	EP 415859	B1	19931103		
	R: GR				
	US 4999418	A	19910312	US 1989-401270	19890831
	CA 2065024	AA	19910301	CA 1990-2065024	19900831
	CA 2065024	C	19970318		
	WO 9103509	A1	19910321	WO 1990-US4993	19900831
	W: CA, JP, KR				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
	EP 489841	A1	19920617	EP 1990-913671	19900831
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
	JP 05500081	T2	19930114	JP 1990-512766	19900831
	JP 2966087	B2	19991025		
	AT 96818	E	19931115	AT 1990-420391	19900831
	ES 2060117	T3	19941116	ES 1990-420391	19900831
PRAI	US 1989-401270	A	19890831		
	EP 1990-420391	A	19900831		
	WO 1990-US4993	W	19900831		

AB A colored composition comprises extrusion, molding, or fiber-grade polyester having reacted or copolymerized therein ≤ 5000 ppm of ≥ 1 $R(NHCH_2CR_1R_2CH_2X)_n$ [R = anthraquinone residue; R₁, R₂ = (un)substituted alkyl, cycloalkyl, aryl; X = group reactive with ≥ 1 of the functional groups of monomers used in preparing the polyester; n = 1, 2]. The dye residues withstand the conditions of fabrication of film, sheets, and containers from the colored polyesters. Thus, red

1,5-bis[(3-hydroxy-2,2-dimethylpropyl)amino]anthraquinone (I), λ_{\max} 528 nm in CH₂Cl₂, was prepared by heating a mixture of 1,5-dichloroanthraquinone, 3-amino-2,2-dimethylpropanol, and 2-ethoxyethanol to .apprx.130° for 22 h with good agitation, and precipitating (99% yield). Polymerizing 0.5 mol di-Me terephthalate, 1 mol ethylene glycol, and 0.0192 g I in the presence of 8.7 mg Ti [from a BuOH solution of AcOTi(OPr-iso)₃] at 200-285° at atmospheric pressure and in vacuo under N gave bluish-red polyester with inherent viscosity 0.62 dL/g and a film with λ_{\max} 525 nm.

- IC ICM C08G063-685
- ICS C09B069-10
- CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
- Section cross-reference(s): 37, 38
- ST polyester anthraquinone reactive dye
- IT Containers
 - (fabrication of, from colored polyesters incorporating anthraquinone dye components)
- IT Dyes, anthraquinone
 - (monomers, in preparation of colored polyesters)
- IT Polyesters, preparation
 - RL: IMF (Industrial manufacture); PREP (Preparation)
 - (preparation of colored, from anthraquinone dye monomer)
- IT 135133-44-7P
 - RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 - (preparation and acetylation of)
- IT 135133-43-6P
 - RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 - (preparation and bromination of)
- IT 134874-82-1P **134874-85-4P** 135020-49-4P
 - RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
 - (preparation and **polymerization** of, in colored polyester manufacture)
- IT 135133-45-8P
 - RL: IMF (Industrial manufacture); PREP (Preparation)
 - (preparation of)
- IT 135020-50-7P
 - RL: IMF (Industrial manufacture); PREP (Preparation)
 - (preparation of blue)
- IT 134874-83-2P **135020-51-8P**
 - RL: IMF (Industrial manufacture); **PREP (Preparation)**
 - (preparation of bluish red)
- IT 135229-45-7P
 - RL: IMF (Industrial manufacture); PREP (Preparation)
 - (preparation of colored)
- IT 82-43-9, 1,8-Dichloroanthraquinone 82-44-0, 1-Chloroanthraquinone
82-46-2, 1,5-Dichloroanthraquinone
 - RL: RCT (Reactant); RACT (Reactant or reagent)
 - (reaction of, with aminodimethylpropanol)
- IT 26734-09-8
 - RL: RCT (Reactant); RACT (Reactant or reagent)
 - (reaction of, with dichloroanthraquinone)
- IT 81-64-1, Quinizarin
 - RL: RCT (Reactant); RACT (Reactant or reagent)
 - (reaction of, with leucoquinizarin and aminodimethylpropanol)
- IT 476-60-8, Leucoquinizarin
 - RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with quinizarin and aminodimethylpropanol)

IT 134874-85-4P

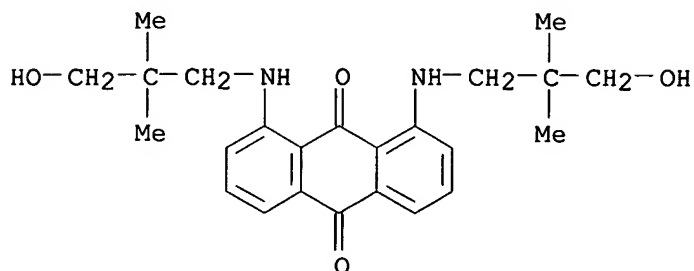
RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(preparation and polymerization of, in colored polyester manufacture)

RN 134874-85-4 HCAPLUS

CN 9,10-Anthracenedione, 1,8-bis[(3-hydroxy-2,2-dimethylpropyl)amino]- (9CI)
(CA INDEX NAME)



IT 135020-51-8P

RL: IMF (Industrial manufacture); PREP (Preparation)

(preparation of bluish red)

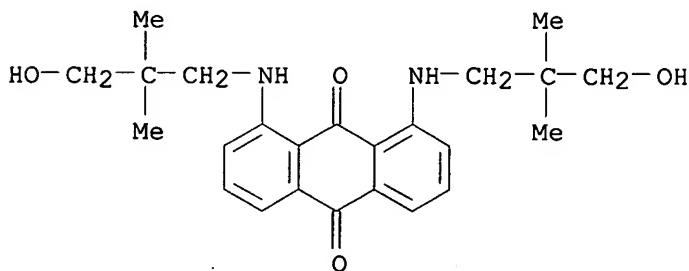
RN 135020-51-8 HCAPLUS

CN 1,4-Benzenedicarboxylic acid, dimethyl ester, polymer with
1,8-bis[(3-hydroxy-2,2-dimethylpropyl)amino]-9,10-anthracenedione and
1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 134874-85-4

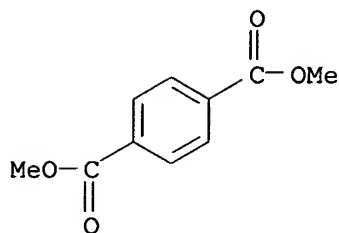
CMF C24 H30 N2 O4



CM 2

CRN 120-61-6

CMF C10 H10 O4



CM 3

CRN 107-21-1

CMF C2 H6 O2

HO-CH₂-CH₂-OH

L24 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:451855 HCAPLUS

DN 115:51855

TI Copolymerized anthraquinone-polyester color concentrates

IN Parham, William Whitfield; Krutak, James John; Weaver, Max Allen; Coates, Clarence Alvin; Oldfield, Terry Ann

PA Eastman Kodak Co., USA

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 417017	A1	<u>19910313</u>	EP 1990-420389	19900829
	EP 417017	B1	19940316		
	R: GR				
	US 5032670	A	19910716	US 1989-400423	19890830
	CA 2064802	AA	19910301	CA 1990-2064802	19900829
	CA 2064802	C	19970128		
	WO 9103508	A1	19910321	WO 1990-US4912	19900829
	W: CA, JP, KR				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
	EP 485520	A1	19920520	EP 1990-913370	19900829
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
	JP 05500078	T2	19930114	JP 1990-512551	19900829
	JP 2966086	B2	19991025		
	AT 102967	E	19940415	AT 1990-420389	19900829
	ES 2062474	T3	19941216	ES 1990-420389	19900829
PRAI	US 1989-400423	A	19890830		
	EP 1990-420389	A	19900829		
	WO 1990-US4912	W	19900829		

AB 1,5-(I) and 1,8-bis[(3-hydroxy-2,2-dimethylpropyl)amino]anthraquinone are prepared and polymerized with aromatic diesters and diols to prepare color concs.

Thus, 1,5-dichloroanthraquinone reacted with 3-amino-2,2-dimethylpropanol to prepare I which (54 g) was polymerized with 133.6 g di-Me terephthalate and

85.5 g ethylene glycol in the presence of Ti tetraisopropoxide to prepare a dark red polyester.

IC ICM C08G063-685
ICS C09B069-10; C08J003-22

CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 35

ST anthraquinone polyester color conc; terephthalate ethanediol hydroxyaminoanthraquinone copolymer

IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(color concs.)

IT Coloring materials
(concs., anthraquinone-containing polyesters for)

IT Polymerization
(of bis[(hydroxydimethylpropyl)amino]anthraquinone with aromatic diesters and diols, for color concs.)

IT 134874-83-2 134874-84-3 134874-86-5 134874-87-6 134874-88-7
134900-35-9
RL: USES (Uses)
(color concs.)

IT 134874-82-1P **134874-85-4P**
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(manufacture and **polymerization** of)

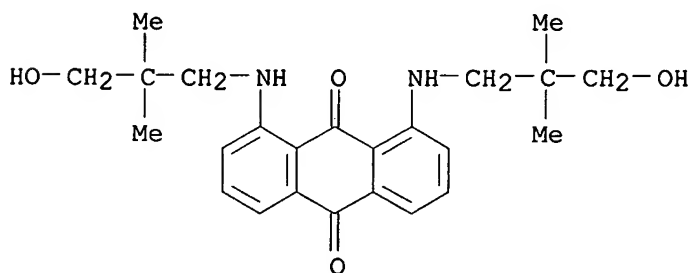
IT 82-43-9, 1,8-Dichloroanthraquinone 82-46-2, 1,5-Dichloroanthraquinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminodimethylpropanol)

IT 26734-09-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dichloroanthraquinone)

IT **134874-85-4P**
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(manufacture and **polymerization** of)

RN 134874-85-4 HCAPLUS

CN 9,10-Anthracenedione, 1,8-bis[(3-hydroxy-2,2-dimethylpropyl)amino]- (9CI)
(CA INDEX NAME)



L24 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1989:516571 HCAPLUS
Correction of: 1987:139423

DN 111:116571
Correction of: 106:139423

TI Adhesive-coated metal foils

IN Ariji, Katsunori; Kurokawa, Tokuo

PA Toshiba Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60233177	A2	19851119	JP 1984-89529	19840507
PRAI	JP 1984-89529		19840507		

AB In manufacture of a metal foil-prepreg laminate, a metal foil is coated with a solventless epoxy resin adhesive containing a photochem. catalyst and a thermal activation-type crosslinking catalyst or agent to improve production rate. Thus, a Cu foil was coated with a compn, comprising Epikote 1001 300, ERL 4221 300, Bu glycidyl ether 100, Epikote 828 300, triphenyl-o-nitrobenzyloxy silane 20, tris(isopropionato)aluminum 5, and dicyandiamide 40 parts, UV-cured, and pressed with 8 phenolic resin prepregs at 175° and 120 kg/cm² for 3 h to give a product exhibiting soldering temperature resistance 25.s at 260° and peel strength 2.0 kg/cm.

IC ICM C09J007-02

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 56

ST epoxy adhesive copper foil laminate; phenylnitrobenzyloxysilane photochem curing catalyst epoxy; isopropionatoaluminum photochem curing catalyst epoxy; dicyandiamide curing catalyst epoxy adhesive; phenolic prepreg lamination copper foil

IT Epoxy resins, uses and miscellaneous

RL: TEM (Technical or engineered material use); USES (Uses)

(adhesives, containing photochem. and thermal activation-type curing catalysts, in manufacture of metal foil laminate at fast production rate)

IT Adhesives

(epoxy resins, photo- and thermally curable, in manufacture of metal foil laminates at fast production rate)

IT Lamination

(of metal foil with phenolic resins prepregs, adhesives in manufacture of, photo- and thermally curable epoxy resins as)

IT Phenolic resins, uses and miscellaneous

RL: USES (Uses)

(prepregs, laminates with metal foil, photochem.- and thermally curable epoxy resin adhesives in manufacture of)

IT Crosslinking catalysts

(photochem., silane, aluminum compound, or onium compds., thermal curing catalyst mixts., for epoxy resin adhesives, in lamination of metal foil with phenolic resin prepregs)

IT Crosslinking catalysts

(thermal, amine compds., photochem. curing catalyst mixts., for epoxy resin adhesives, in lamination of metal foil with phenolic prepregs)

IT 25068-38-6 25085-98-7

RL: TEM (Technical or engineered material use); USES (Uses)

(adhesives, containing photochem. and thermal activation-type curing catalysts, in manufacture of metal foil laminate at fast production rate)

IT 58421-55-9

RL: TEM (Technical or engineered material use); USES (Uses)

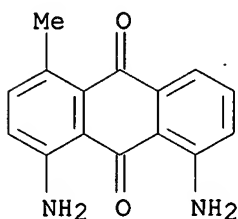
(adhesives, containing photochem. and thermal curing catalysts, in manufacture of metal foil laminates at fast production rate)

IT 461-58-5 931-36-2 2760-98-7

RL: CAT (Catalyst use); USES (Uses)

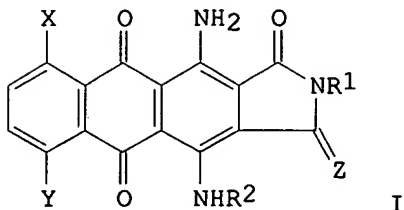
(crosslinking catalysts, for epoxy resin adhesives, in manufacture of metal

foil laminates at fast production rate)
 IT 7429-90-5P, Aluminum, uses and miscellaneous 7440-50-8P, Copper, uses
 and miscellaneous
 RL: PREP (Preparation); USES (Uses)
 (foil, laminate with phenolic resin prepregs, adhesives in manufacture of,
 photo- and thermally curable epoxy resins as, for fast production rate)
 IT 555-31-7 1829-41-0 10146-61-9 13963-57-0 57835-99-1
 60565-88-0 88216-15-3
 RL: USES (Uses)
 (photochem. curing catalysts, for epoxy resin adhesives, in
 manufacture of metal foil laminates at fast production rate)
 IT 10146-61-9
 RL: USES (Uses)
 (photochem. curing catalysts, for epoxy resin adhesives, in
 manufacture of metal foil laminates at fast production rate)
 RN 10146-61-9 HCAPLUS
 CN 9,10-Anthracenedione, 4,5-diamino-1-methyl- (9CI) (CA INDEX NAME)



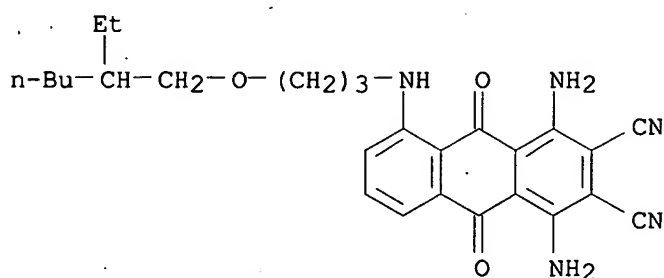
L24 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1987:535886 HCAPLUS
 DN 107:135886
 TI Anthraquinone dyes
 IN Matsunaga, Daisaku; Morishita, Yasuyoshi; Oiso, Shoji
 PA Nippon Kayaku Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62054761	A2	19870310	JP 1985-193810	19850904
	JP 04017231	B4	19920325		
PRAI	JP 1985-193810		19850904		
GI					

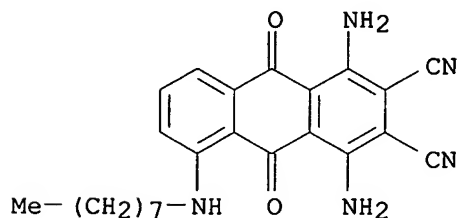


- AB Anthraquinone compds. useful for coloring plastics, liquid crystal displays, laser recording, etc. were prepared having general formula I [R1 = C1-16 alkyl with or without 1-5 O linkages, cycloalkyl, alkenyl, aralkyl, allyloxyalkyl, (un)substituted aryl; R2 = H, C1-4 alkyl; one of X and Y is H, while the other is NHR3; R3 = C1-15 alkyl with or without 1 O linkage, cycloalkyl, alkenyl, aralkyl; Z = O, S, NH, NR3]. Thus, 1,4-diamino-2,3-dicyano-5-nitroanthraquinone was heated with 2-ethylhexyloxypropylamine at 70-80° for 15 h to give 1,4-diamino-2,3-dicyano-5-(2-ethylhexyloxypropylamino)anthraquinone, which was hydrolyzed and treated with 4-butyraniline to give bluish green I (R1 = 4-BuC6H4; R2 = Y = H; X = BuEtCHCH2OC3H6NH).
- IC ICM C09B005-62
ICS C09K019-60; G02F001-13
- CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 37, 74, 75
- ST anthraquinone dye laser recording; plastic coloring anthraquinone dye; liq crystal anthraquinone dye
- IT Dyes, anthraquinone
(for plastics and liquid crystals and laser recording)
- IT Optical imaging devices
(liquid-crystal, anthraquinone dyes for)
- IT Recording materials
(optical, anthraquinone dyes for)
- IT 9011-14-7, PMMA
RL: USES (Uses)
(anthraquinone dyes for)
- IT 106095-79-8 110136-61-3 110136-62-4 110136-63-5 110136-64-6
110136-65-7 110136-66-8 110136-67-9 110136-68-0 110136-69-1
110136-70-4 110137-28-5 110137-29-6 110137-30-9 110137-31-0
110137-32-1 110137-33-2 110137-34-3 110137-35-4 110137-36-5
110137-37-6 110137-38-7 110137-39-8 110137-40-1 110137-41-2
110137-42-3 110137-43-4 110137-44-5 110137-45-6 110137-46-7
110137-47-8 110137-48-9 110137-49-0 110137-50-3 110137-51-4
110137-52-5 110137-53-6 110137-54-7 110137-55-8 110137-56-9
110137-57-0 110137-58-1 110137-59-2 110137-60-5 110137-61-6
110137-62-7 110137-63-8 110162-40-8 110162-41-9 110162-46-4
RL: USES (Uses)
(dye, for plastics and liquid crystals and laser recording)
- IT 110136-71-5P 110136-73-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture and hydrolysis of)
- IT 110136-74-8P
RL: PREP (Preparation)
(manufacture and reaction with butylaniline)
- IT 110136-72-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with anilines)
- IT 104-13-2, 4-Butylaniline 111-86-4, Octylamine 33228-45-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with anthraquinonedicarboxylic acid derivs.)
- IT 90155-57-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dicyanoanthraquinone derivs.)
- IT 7783-06-4, Hydrogen sulfide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with iminocarboximide derivs.)

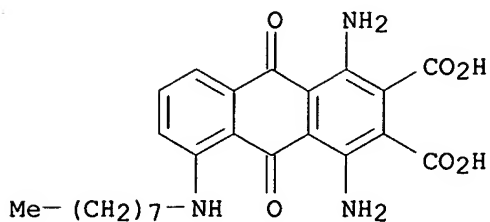
IT 5397-31-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with nitroanthraquinone derivs.)
 IT 72957-34-7, 1,4-Diamino-2,3-dicyano-5-nitroanthraquinone
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with octyloxypropylamine)
 IT 110136-71-5P 110136-73-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); **PREP**
(Preparation); RACT (Reactant or reagent)
 (manufacture and hydrolysis of)
 RN 110136-71-5 HCAPLUS
 CN 2,3-Anthracenedicarbonitrile, 1,4-diamino-5-[[3-[(2-ethylhexyl)oxy]propyl]amino]-9,10-dihydro-9,10-dioxo- (9CI) (CA INDEX NAME)



RN 110136-73-7 HCAPLUS
 CN 2,3-Anthracenedicarbonitrile, 1,4-diamino-9,10-dihydro-5-(octylamino)-9,10-dioxo- (9CI) (CA INDEX NAME)



IT 110136-74-8P
 RL: **PREP (Preparation)**
 (manufacture and reaction with butylaniline)
 RN 110136-74-8 HCAPLUS
 CN 2,3-Anthracenedicarboxylic acid, 1,4-diamino-9,10-dihydro-5-(octylamino)-9,10-dioxo- (9CI) (CA INDEX NAME)



L24 ANSWER 10 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:524074 HCAPLUS

DN 103:124074

TI Polymerization inhibitors for basic vinyl monomers

PA Nitto Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60081204	A2	19850509	JP 1983-187687	19831008
PRAI	JP 1983-187687		19831008		

AB Polymerization inhibitors for CH₂:CRCONHZNMe₂ (R = H, Me; Z = alkylene) contain substituted quinones and/or quinone dioximes. Thus, 30 g N,N-dimethylaminopropylmethacrylamide [5205-93-6] was refluxed 7 h in vacuo in the presence of 0.06 g p-quinone dioxime (I) [105-11-3]. Viscosity of the mixture was ≤50 St vs. 1500 St without I and 200 St using phenothiazine.

IC ICM C08F002-00

ICA C08F020-54

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25

ST quinone polymn inhibitor aminoalkyl acrylamide; methacrylamide aminoalkyl polymn inhibitor quinone; oxime quinone polymn inhibitor acrylamide

IT Vinyl compounds, uses and miscellaneous

RL: USES (Uses)

(basic monomers, polymerization inhibitors for, substituted quinone and quinone dioximes as)

IT Quinones

RL: USES (Uses)

(polymerization inhibitors, for dimethylaminoalkyl(meth)acrylamides)

IT Polymerization inhibitors

(substituted quinones and quinone dioximes, for dimethylamino(meth)acrylamides)

IT Oximes

RL: USES (Uses)

(di-, polymerization inhibitors, for dimethylaminoalkyl(meth)acrylamides)

IT 5205-93-6

RL: USES (Uses)

(polymerization inhibitors for, quinone dioxime as)

IT 43078-34-8

RL: USES (Uses)

(polymerization inhibitors for, substituted quinones and quinone dioximes as)

IT 81-55-0 81-60-7 81-61-8 81-64-1 82-21-3 82-33-7 82-35-9

82-43-9 82-45-1 82-46-2 82-48-4 82-49-5 87-88-7 105-11-3
 116-85-8 117-10-2 117-12-4 117-14-6 117-80-6 118-75-2, uses and
 miscellaneous 128-86-9 128-94-9 128-95-0 129-39-5 **129-42-0**
 129-43-1 129-44-2 145-49-3 615-93-0 615-94-1 844-51-9
 2058-02-8 2861-02-1 4095-82-3 7461-27-0 14140-02-4 98100-66-4
 RL: USES (Uses)

(polymerization inhibitors, for dimethylaminoalkyl(meth)acrylamides)

IT 109-55-7

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with Me methacrylate)

IT 80-62-6

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dimethylaminopropylamine)

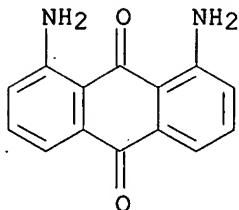
IT **129-42-0**

RL: USES (Uses)

(polymerization inhibitors, for dimethylaminoalkyl(meth)acrylamides)

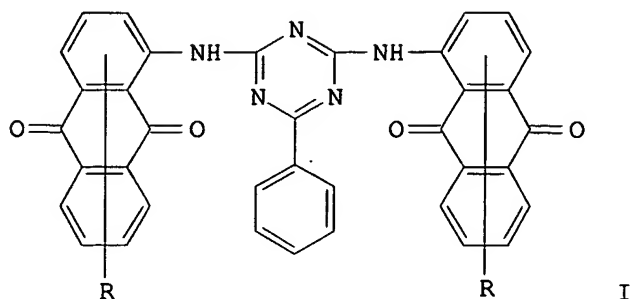
RN 129-42-0 HCAPLUS

CN 9,10-Anthracenedione, 1,8-diamino- (9CI) (CA INDEX NAME)



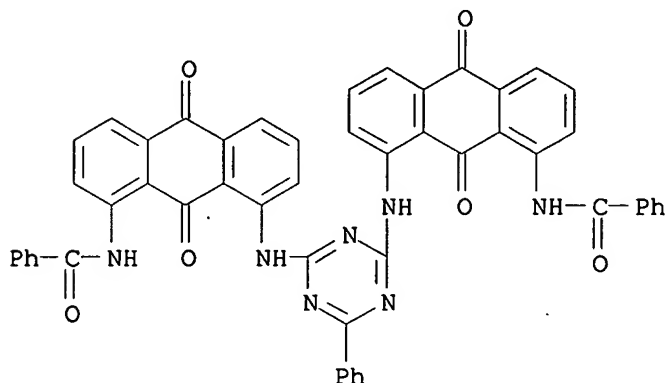
L24 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1985:96944 HCAPLUS
 DN 102:96944
 TI Pigment and vat forms of anthraquinone-triazine dyes
 IN Kreidl, Zdenek; Havlickova, Libuse
 PA Czech.
 SO Czech., 5 pp.
 CODEN: CZXXA9
 DT Patent
 LA Czech
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 214303	B	19820409	CS 1980-7298	19801029
PRAI	CS 1980-7298		19801029		
GI					



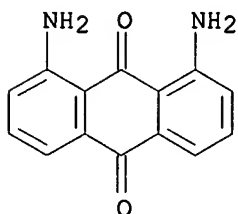
- AB The dyes I (R = H, 8-BzNH, 4-BzNH, 5-BzNH, 2-Me) are prepared in a nondusting powdered, granulated, or paste form suitable as vat dyes or easily dispersible pigments by mixing their amorphous form, after repptn. from H₂SO₄, in an aqueous dispersion with 10-100% surface active compds. at 0.1-5.0 MPa and 80-265°. Thus, 10 parts I (R = H) [4118-16-5] was dissolved in 60 parts concentrated H₂SO₄, precipitated in 600 parts H₂O at 38-40°, filtered, washed, dispersed in 100-200 parts H₂O, neutralized, boiled for 1 h with 1 part of a 20% solution of Na abietate [14351-66-7], filtered, washed, dried, and ground to a powdered pigment for plastics.
- IC C09B067-48
- ICA C09B001-16
- CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
- Section cross-reference(s): 37, 40
- ST anthraquinone triazine pigment vat dye
- IT Pigments
(bis(anthraquinonylamino)phenyltriazine derivs., manufacture of easily dispersible)
- IT Resin acids and Rosin acids
RL: USES (Uses)
(dimerized, potassium salts, polymerized, in manufacture of bis(anthraquinonylamino)phenyltriazine derivs. in easily dispersible pigment and vat dye form)
- IT Resin acids and Rosin acids
RL: USES (Uses)
(dimers and potassium salts, in manufacture of bis(anthraquinonylamino)phenyltriazine derivs. in easily dispersible pigment and vat dye form)
- IT Alcohols, compounds
Amines, compounds
RL: USES (Uses)
(ethoxylated, in manufacture of bis(anthraquinonylamino)phenyltriazine derivs. in easily dispersible pigment and vat dye form)
- IT Surfactants
(in manufacture of bis(anthraquinonylamino)phenyltriazine derivs. in easily dispersible pigment and vat dye form)
- IT Dyes, anthraquinone
(vat, bis(anthraquinonylamino)phenyltriazine derivs., manufacture of easily dispersible)
- IT 50-00-0D, reaction products with naphthalenesulfonic acid 120-18-3D, reaction products with formaldehyde 14351-66-7 25322-68-3D, ether or amine derivs.
RL: USES (Uses)
(in manufacture of bis(anthraquinonylamino)phenyltriazine derivs. in easily dispersible)

dispersible pigment and vat dye form)
 IT 4118-16-5P 29492-11-3P 49776-52-5P **78381-82-5P** 92449-09-7P
 RL: **PREP (Preparation)**
 (pigment or vat dye, manufacture of, in easily dispersible form)
 IT **78381-82-5P**
 RL: **PREP (Preparation)**
 (pigment or vat dye, manufacture of, in easily dispersible form)
 RN 78381-82-5 HCAPLUS
 CN Benzamide, N,N'-[(6-phenyl-1,3,5-triazine-2,4-diyl)bis[imino(9,10-dihydro-9,10-dioxo-8,1-anthracenediyl)]]bis- (9CI) (CA INDEX NAME)



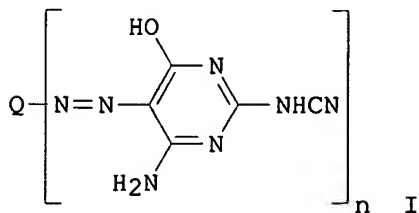
L24 ANSWER 12 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1983:423406 HCAPLUS
 DN 99:23406
 TI Photosensitized luminescence of singlet oxygen in polymeric films
 AU Byteva, I. M.; Gurinovich, G. P.; Golomb, O. L.; Karpov, V. V.
 CS Inst. Phys., Minsk, 220602, USSR
 SO Chemical Physics Letters (1983), 97(2), 167-9
 CODEN: CHPLBC; ISSN: 0009-2614
 DT Journal
 LA English
 AB Singlet oxygen luminescence was discovered in poly(ethylene terephthalate) (I) [25038-59-9] and cellulose triacetate [9012-09-3] films colored by porphyrin, tryptaflavine [65431-33-6] and anthraquinone dyes. Quantum yield of porphyrin-sensitized O₂ emission in a I film was estimated to be 10-6. The exptl. evidence supports the fact that oxygen dissolved in a polymer matrix luminescences.
 CC 37-5 (Plastics Manufacture and Processing)
 Section cross-reference(s): 74
 ST oxygen singlet luminescence dyed polymer; polyterephthalate film oxygen singlet luminescence; triacetate film oxygen singlet luminescence
 IT Luminescence
 (of single oxygen in polymeric film colored by dyes)
 IT Dyes
 (polyester and cellulose triacetate film colored by, luminescence of singlet oxygen in)
 IT 9012-09-3 25038-59-9, uses and miscellaneous
 RL: USES (Uses)
 (film, containing dyes, luminescence of singlet oxygen in)
 IT 129-42-0 129-44-2 448-71-5 7403-58-9 49620-57-7
 65431-33-6

RL: USES (Uses)
 (polymeric film colored by, photoluminescence of singlet
 oxygen in)
 IT 7782-44-7, properties
 RL: PRP (Properties)
 (singlet, luminescence of, in polymeric film colored by dyes)
 IT 129-42-0
 RL: USES (Uses)
 (polymeric film colored by, photoluminescence of singlet
 oxygen in)
 RN 129-42-0 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-diamino- (9CI) (CA INDEX NAME)



L24 ANSWER 13 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1982:618032 HCAPLUS
 DN 97:218032
 TI Anthraquinone azo pigments
 IN Rolf, Meinhard; Neeff, Ruetger; Mueller, Walter
 PA Bayer A.-G. , Fed. Rep. Ger.
 SO Ger. Offen., 31 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

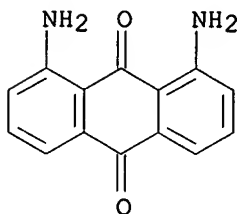
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3106358	A1	19820909	DE 1981-3106358	19810220
	EP 58866	A1	19820901	EP 1982-100898	19820208
	EP 58866	B1	19840718		
	R: CH, DE, FR, GB				
	JP 57153052	A2	19820921	JP 1982-23705	19820218
PRAI	DE 1981-3106358	A	19810220		
GI					



AB Title compds. of general structure I are prepared, where Q represents a

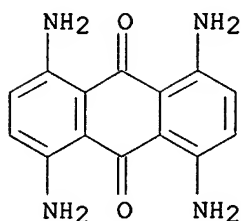
sulfo group-free anthraquinone or heterocyclic anthraquinone residue and n = 1 or 2. These mainly yellow to red pigments exhibit high color strength and high resistance to light and weathering. Thus, diazotization of 1-aminoanthraquinone [82-45-1] and coupling with 4-amino-2-(cyanoamino)-6-hydroxypyrimidine [6112-71-6] gave I (Q = anthraquinon-1-yl, n = 1) [83742-30-7], a fast yellow pigment for baking enamels, polyolefins, and printing inks. Several other I were similarly prepared

IC C09B056-12; C08K005-34; C08J003-20
 CC 41-4 (Dyes, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 37, 42
 ST anthraquinone azo pigment; cyanoaminopyrimidine pigment; pyrimidine
 anthraquinone azo pigment; aminohydroxypyrimidine pigment
 IT Pigments
 (anthraquinone-azo, amino(cyanoamino)hydroxypyrimidinyl group-containing,
 for coatings and inks and plastics)
 IT Alkenes, polymers
 RL: USES (Uses)
 (polymers, pigments for, anthraquinone-azo compds. as)
 IT Inks
 (printing, pigments for, anthraquinone-azo compds. as)
 IT 82-45-1 117-06-6
 RL: USES (Uses)
 (coupling of diazotized, with amino(cyanoamino)hydroxypyrimidine)
 IT 129-44-2
 RL: USES (Uses)
 (coupling of tetrazotized with amino(cyanoamino)hydroxypyrimidine)
 IT 6112-71-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (coupling of, with aminoanthraquinones)
 IT 83742-30-7
 RL: USES (Uses)
 (pigment, for coatings and plastics, manufacture of)
 IT 129-42-0P 83742-31-8P 83742-32-9P 83742-33-0P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (pigment, manufacture of)
 IT 129-42-0P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (pigment, manufacture of)
 RN 129-42-0 HCAPLUS
 CN 9,10-Anthracenedione, 1,8-diamino- (9CI) (CA INDEX NAME)

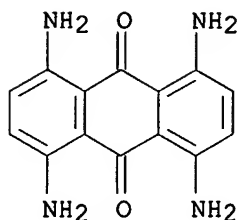


L24 ANSWER 14 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1979:421610 HCAPLUS
 DN 91:21610
 TI Effect of acceptor-donor additives on the radiative electrical
 conductivity of certain polymeric materials
 AU Sichkar, V. P.; Tyutnev, A. P.

CS Nauchno-Issled. Fiz.-Khim. Inst. im. Karpova, Moscow, USSR
 SO Vysokomolekulyarnye Soedineniya, Seriya A (1979), 21(5), 1070-4
 CODEN: VYSAAF; ISSN: 0507-5475
 DT Journal
 LA Russian
 AB The introduction of large mols (e.g. 1,4,5,8-tetraaminoanthraquinone [2475-45-8], 1,8-naphthalenediamine [479-27-6], or anthracene [120-12-7]) into polystyrene [9003-53-6] or poly(Me methacrylate) [9011-14-7] decreases elec. conductivity (σ) induced by γ -radiation. The decrease of σ is produced by interaction of these additives with the electron traps of **polymers** and the ensuing alteration of their ability to capture electrons. Mol. O has practically no effect on the σ of polyethylene [9002-88-4], poly(ethylene terephthalate) [25038-59-9], PTFE [9002-84-0], PVC [9002-86-2], or PM 1 **polymer** [37280-77-6].
 CC 36-5 (Plastics Manufacture and Processing)
 Section cross-reference(s): 74, 76
 ST elec cond polymer irradsn induced; methacrylate polymer elec cond irradsn; polystyrene elec cond irradsn; oxygen polymer elec cond; trap polymer elec cond
 IT Gamma ray, chemical and physical effects
 (elec. conductivity of polymers in presence of, donor-acceptor additive effect on)
 IT Trapping and Traps
 (in polymers containing acceptor-donor additives, radiation-induced elec. conductivity in relation to)
 IT Electric conductivity and conduction
 (radiation-induced, of polymer films, acceptor-donor additive effect on)
 IT 118-75-2, properties 120-12-7, properties 479-27-6 603-34-9
 2475-45-8
 RL: PRP (Properties)
 (electron trap blocking with, radiation-induced elec. conductivity of **polymers** in relation to)
 IT 7782-44-7, uses and miscellaneous
 RL: USES (Uses)
 (radiation-induced elec. conductivity of polymer films in presence of)
 IT 9002-84-0 9002-86-2 9002-88-4 9003-53-6 9011-14-7 25036-53-7
 25038-59-9, properties
 RL: PRP (Properties)
 (radiation-induced elec. conductivity of, electron trap blocking by large mols. in)
 IT 2475-45-8
 RL: PRP (Properties)
 (electron trap blocking with, radiation-induced elec. conductivity of **polymers** in relation to)
 RN 2475-45-8 HCAPLUS
 CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



L24 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1976:5420 HCAPLUS
 DN 84:5420
 TI Polymers with a graphitic-type structure. II
 AU Kellman, Raymond; Marvel, C. S.
 CS Dep. Chem., Univ. Arizona, Tucson, AZ, USA
 SO Journal of Polymer Science, Polymer Chemistry Edition (1975), 13(9), 2125-31
 CODEN: JPLCAT; ISSN: 0449-296X
 DT Journal
 LA English
 GI For diagram(s), see printed CA Issue.
 AB 1,4,5,8-Tetraaminoanthraquinone-1,3,6,8-tetraoxo-1,2,3,6,7,8-hexahydropyrene copolymer [36313-62-9] was prepared with improved purity by using purer tetraketone and **polymerization** at lower temps. for a longer time. Using polyphosphoric acid as solvent prepolymer was obtained as a shiny black granular solid in approx. 84% yield and was approx. 70% soluble in methanesulfonic acid. The graphitic-type **polymer** structure (I) was obtained by heating at >340° under high vacuum for approx. 2-5 days. Heat treatment to partial or complete ring closure was carried out on the prepared granular solid or on a film cast from methanesulfonic acid solution
 CC 35-3 (Synthetic High **Polymers**)
 Section cross-reference(s): 26
 ST ladder polymer graphitic structure; tetraaminoanthraquinone tetraketohexahydropyrene copolymer
 IT Ring closure and formation
 (in polymerization, of tetraaminoanthraquinone with hexahydropyrenetetrone)
 IT Polymerization
 (of tetraaminoanthraquinone with hexahydropyrenetetrone, solvents for)
 IT 2475-45-8P 35147-76-3P
 RL: SPN (Synthetic preparation); **PREP (Preparation)**
 (preparation of)
 IT 36313-62-9P
 RL: SPN (Synthetic preparation); **PREP (Preparation)**
 (preparation of, with graphitic structure)
 IT 81-30-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diethyl malonate)
 IT 105-53-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with naphthalenetetracarboxylic dianhydride)
 IT 2475-45-8P
 RL: SPN (Synthetic preparation); **PREP (Preparation)**
 (preparation of)
 RN 2475-45-8 HCAPLUS
 CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



IT 36313-62-9P

RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of, with graphitic structure)

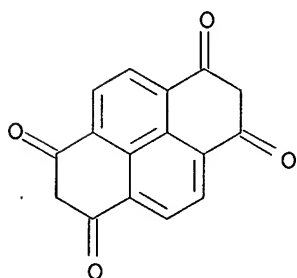
RN 36313-62-9 HCAPLUS

CN 1,3,6,8(2H,7H)-Pyrenetetrone, polymer with 1,4,5,8-tetraamino-9,10-anthracenedione (9CI) (CA INDEX NAME)

CM 1

CRN 35147-76-3

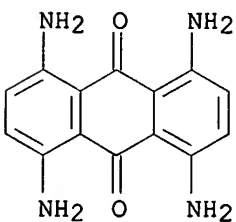
CMF C16 H8 O4



CM 2

CRN 2475-45-8

CMF C14 H12 N4 O2



L24 ANSWER 16 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1972:528035 HCAPLUS

DN 77:128035

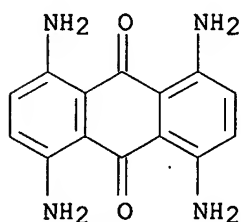
TI Polymeric pigments

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IN Mizutani, Yukio; Matsuoka, Hoshiro; Kusumoto, Hiroshi
 PA Tokuyama Soda Co., Ltd.
 SO Jpn. Tokkyo Koho, 11 pp.
 CODEN: JAXXAD
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 47021233	B4	19720615	JP 1968-87322	19681130
AB	<p>Pigments resistant to heat and migration were prepared by heating HO or NH₂ group-containing azo, nitro, anthraquinone, or triarylmethane dyes with a crosslinked polymer of particle size < 2 μ containing reactive epoxy or maleic anhydride groups. Thus, a glycidyl methacrylate-divinylbenzene copolymer [9040-22-6] of particle size 0.1 μ was prepared by polymerizing glycidyl methacrylate and divinylbenzene in heptane with Bz202 and heated with 4-amino-4'-nitroazobenzene [730-40-5] or 1,4,5,8-tetraaminoanthraquinone [2475-45-8] in aqueous dispersion at 120.deg. for 3 hr to give pigments which incorporated 90 and 73% of dye, resp. Another polymer base was prepared from maleic anhydride, divinylbenzene, and styrene and treated similarly.</p>				
IC	C09B; C08F				
CC	40-1 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)				
	Section cross-reference(s): 36, 42				
ST	azo polymeric pigment; anthraquinone polymeric pigment; polymer pigment; pigment polymeric; vinyl polymer pigment; epoxy polymer pigment; maleic polymer pigment; dye polymeric				
IT	<p>Pigments (polymeric, from epoxy-or anhydride group-containing polymers-dye reaction products)</p>				
IT	<p>2,5-Furandione, polymer with diethenylbenzene and ethenylbenzene, reaction products with amino- or hydroxy group-containing dyes 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with diethenylbenzene, reaction products with amino- or hydroxy group-containing dyes Benzene, diethenyl-, polymer with ethenylbenzene and 2,5-furandione, reaction products with amino- or hydroxy group-containing dyes Benzene, diethenyl-, polymer with oxiranylmethyl 2-methyl-2-propenoate, reaction products with amino- or hydroxy group-containing dyes Benzene, ethenyl-, polymer with diethenylbenzene and 2,5-furandione, reaction products with amino- or hydroxy group-containing dyes</p>				
	RL: IMF (Industrial manufacture); PREP (Preparation)				
	(preparation of)				
IT	<p>119-15-3DP, Phenol, 4-[(2,4-dinitrophenyl)amino]-, reaction products with epoxy-or anhydride group-containing polymers 632-99-5DP, Benzenamine, 4-[(4-aminophenyl)(4-imino-2,5-cyclohexadien-1-ylidene)methyl]-2-methyl-, monohydrochloride, reaction products with epoxy-or anhydride group-containing polymers 730-40-5DP, Benzenamine, 4-[(4-nitrophenyl)azo]-, reaction products with anhydride-or epoxy group-containing polymers 1052-38-6DP, 1,3-Benzenediamine, 4,4'-[1,3-phenylenebis(azo)]bis-, reaction products with epoxy-or anhydride group-containing polymers 2475-45-8DP, 9,10-Anthracenedione, 1,4,5,8-tetraamino-, reaction products with epoxy-or anhydride group-containing polymers</p>				
	RL: IMF (Industrial manufacture); PREP (Preparation)				
	(preparation of)				
IT	<p>2475-45-8DP, 9,10-Anthracenedione, 1,4,5,8-tetraamino-, reaction products with epoxy-or anhydride group-containing polymers</p>				
	RL: IMF (Industrial manufacture); PREP (Preparation)				
	(preparation of)				

RN 2475-45-8 HCAPLUS
 CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)

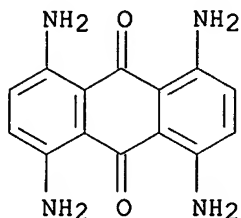


L24 ANSWER 17 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1972:420112 HCAPLUS
 DN 77:20112
 TI New thermally stable polymer with a graphite-type structure
 AU Hurley, S. A.; Dutt, Prabir K.; Marvel, C. S.
 CS Dep. Chem., Univ. Arizona, Tucson, AZ, USA
 SO Journal of Polymer Science, Polymer Chemistry Edition (1972), 10(4), 1243-61
 CODEN: JPLCAT; ISSN: 0449-296X
 DT Journal
 LA English
 AB 1,4,5,8-Tetraaminoanthraquinone [2475-45-8] was condensed with 1,3,6,8-tetraketo-1,2,3,6,7,8-hexahydropyrene [35147-76-3] to form open-structured prepolymers having inherent viscosity 0.4, which were heated to obtain a closed-ring, thermally stable **polymer** with a graphite-like structure [poly(phenaleno[1,2,3-i,j]anthra[1,9,8-cdef:4,10,5-c'd'e'f']di[2,7]naphthyridine-2,3:10,11-tetrayl) (I) [34557-83-0]]. The prepolymers were soluble in MeSO₃H and partially soluble in H₂SO₄, but the **polymers** were insol. in the acids. Prepolymers having inherent viscosity 0.11-1.58 had low acid solubility. The acid-soluble prepolymers were solubilized by reduction with Na₂S₂O₄ in an alkaline, aqueous AcNMe₂. The highest mol. weight prepolymer (inherent viscosity 1.30-1.58) was solubilized to a greater degree in the base mixture than in MeSO₃H, but was not completely soluble
 CC 35-3 (Synthetic High **Polymers**)
 ST aminoanthraquinone hydropyrene polymer; anthraquinone amino hydropyrene polymer
 IT Heat-resistant materials
 (hexahydropyrenetetraone-tetraaminoanthraquinone polymers, cyclized)
 IT Ring closure and formation
 (of tetraaminoanthraquinone-hexahydropyrenetetraone polymers, heat resistance in relation to)
 IT 34557-83-0
 RL: PRP (Properties)
 (heat resistance of)
 IT 129-30-6P 2475-45-8P 10262-79-0P 35147-76-3P 37686-96-7P
 37686-97-8P 37686-98-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 36313-62-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of cyclized, heat-resistant)
 IT 2475-45-8P

RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of)

RN 2475-45-8 HCAPLUS

CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



IT **36313-62-9P**

RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of cyclized, heat-resistant)

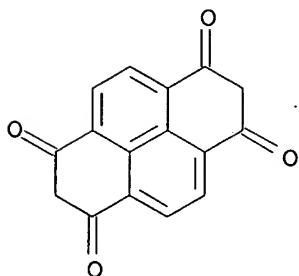
RN 36313-62-9 HCAPLUS

CN 1,3,6,8(2H,7H)-Pyrenetetrone, polymer with 1,4,5,8-tetraamino-9,10-anthracenedione (9CI) (CA INDEX NAME)

CM 1

CRN 35147-76-3

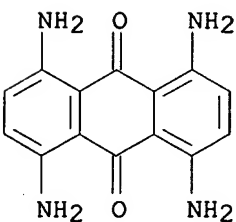
CMF C16 H8 O4



CM 2

CRN 2475-45-8

CMF C14 H12 N4 O2



L24 ANSWER 18 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1972:127779 HCAPLUS

DN 76:127779

TI Polymer with graphite-type structure prepared from tetraaminoanthraquinone and naphthalene-1,8,4,5-diindandione

IN Marvel, Carl S.; Bracke, William; Dutt, Prabir K.

PA Research Corp.

SO U.S., 3 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3635896	A	19720118	US 1969-884612	19691212
PRAI	US 1969-884612	A	<u>19691212</u>		

AB Poly(phenaleno[1,2,3-i,j]anthra[1,9,8-cdef:4,10,5-c'd'e'f']di[2,7]naphthyridine-2,3:10,11-tetrayl) (I) [34557-83-0] was prepared by stepwise condensation, then spun into heat resistant fibers or cast as a film. Thus, 1,4,5,8-tetraaminoanthraquinone and naphthalene-1,8,4,5-diindandione, prepared, were mixed in a HOAc-AcNMe2 mixture or polyphosphoric acid, and heated under N to give a prepolymer (II) which was extracted with alc., then AcNMe2, and heated in vacuo to give I. II in aqueous 80:10:10 Me2SO-Na2S2O4-KOH, or in concentrated H2SO4 was spun into fibers.

IC C08G

NCL 260065000

CC 35 (Synthetic High Polymers)

ST polyphenalenoanthradinaphthyridinetetrayl; aminoanthraquinone naphthalenediindandione polycondensation; fiber forming graphitic polymer; film forming graphitic polymer; heat resistant graphitic polymer

IT Ring closure and formation

(in polymerization, of naphthalene diindandione with tetraaminoanthraquinone)

IT Heat-resistant materials

Synthetic fibers

RL: USES (Uses)

(naphthalene diindandione-tetraaminoanthraquinone polymers)

IT Polymerization

(ring closure in, of naphthalene diindandione with tetraaminoanthraquinone)

IT 34557-83-0P 36313-62-9P

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of, heat-resistant fibers)

IT 36313-62-9P

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of, heat-resistant fibers)

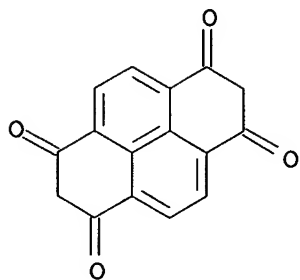
RN 36313-62-9 HCAPLUS

CN 1,3,6,8(2H,7H)-Pyrenetetron, polymer with 1,4,5,8-tetraamino-9,10-anthracenedione (9CI) (CA INDEX NAME)

CM 1

CRN 35147-76-3

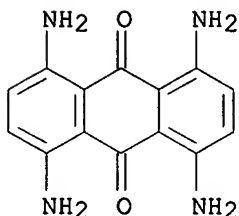
CMF C16 H8 O4



CM 2

CRN 2475-45-8

CMF C14 H12 N4 O2



L24 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1965:439658 HCAPLUS

DN 63:39658

OREF 63:7164c-d

TI Semiconductor properties of some polymeric Schiff bases

AU Danhaeuser, J.; Manecke, G.

CS Max-Planck-Ges., Berlin-Dahlem

SO Makromolekulare Chemie (1965), 84, 238-49

CODEN: MACEAK; ISSN: 0025-116X

DT Journal

LA German

AB Polymeric Schiff bases were obtained by the reaction of 2,7-diaminofluorene, 2,7-diaminofluorenone, 2,7-diaminofluorenone, 2,4,7-triaminofluorenone (I), benzidine, p-phenylenediamine, 2,4,6-triaminophenol (II), 1,5-diaminoanthraquinone, and 1,4,5,8-tetraaminoanthraquinone (III) with glyoxal (IV) and terephthalic dialdehyde. As an example, 0.58 g. (0.01 mole) IV in 20 ml. HCONMe₂ was added dropwise to 1.96 g. (0.01 mole) 2,7-diaminofluorene in 30 ml. HCONMe₂. After 2 hrs. heating at 140°, 0.29 g. (0.005 mole) IV in 20 ml. HCONMe₂ was added and the solution was kept 3 hrs. at 140°. The resulting polymer was filtered and extracted 8 hrs. with MeOH and H₂O. The polymers are colored, insol., and infusible powders with d.c. conds. of $4 + 10^{-8}$ - 10^{-16} ohm-1-cm.-1. The best conductivity was exhibited by the II-IV polymer, and then by the I-IV and III-IV polymers. The method for determining the d.c. conductivity of powdered semiconductive polymers under a pressure of 1000-8000 kg./cm.² is described. From the temperature dependence of the conds.,

the activation energies and σ were calculated.

CC 48 (Plastics Technology)

IT Semiconductors, electric
(Schiff base polymers as)

IT Conductivity, electric and(or) Conduction, electric
(of Schiff base polymers)

IT Activation energy, Heat of activation
(of elec. conduction, of Schiff base polymers)

IT Schiff bases
(polymers, as elec. semiconductors)

IT 525-64-4, Fluorene-2,7-diamine 609-24-5, Phenol, 2,4,6-triamino-
2475-45-8, Anthraquinone, 1,4,5,8-tetraamino- 2915-82-4,
Fluoren-9-one, 2,4,7-triamino- 2915-83-5, Fluoren-9-ol, 2,7-diamino-
2915-84-6, Fluoren-9-one, 2,7-diamino-
(Schiff base **polymers** from glyoxal or terephthalaldehyde and)

IT 623-27-8, Terephthalaldehyde
(Schiff base polymers from polyamino compds. and)

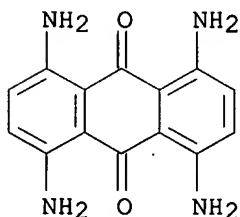
IT 129-44-2, Anthraquinone, 1,5-diamino-
(Schiff base polymers with glyoxal or terephthalaldehyde)

IT 107-22-2, Glyoxal
(polymers (Schiff base) from polyamino compds. and)

IT **2475-45-8**, Anthraquinone, 1,4,5,8-tetraamino-
(Schiff base **polymers** from glyoxal or terephthalaldehyde and)

RN 2475-45-8 HCAPLUS

CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



L24 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1965:403973 HCAPLUS

DN 63:3973

OREF 63:755d-e

TI Coloring surfaces of shaped polymers

IN Busche, Robert M.

PA E. I. du Pont de Nemours & Co.

SO 2 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3181926		<u>19650504</u>	US	19611120
	GB 1004908			GB	

AB A slurry is made from an abrasive, a dye, a wetting agent, and a liquid. This slurry is applied to the surface of the polymer. For example, a slurry of 39.9% 200-mesh crushed Arkansas stone, 10% dye (Fast Red A), 0.1% Na salt of sulfonated oleic acid, and 50% H2O was sprayed against the surface of the polymer at room temperature for 30 sec. The polymer consisted of

a branched polyethylene, a substantially linear high-d. polyethylene, and polypropylene. A mask was used for varied effects.

NCL 008004000

CC 48 (**Plastics** Technology)

IT Plastics and Resinous products
(coloring shaped, by spraying with dispersion of abrasive and dye)

IT Dyes
(dispersions containing abrasives and, coloring shaped plastics by spraying with)

IT Abrasives
(dispersions containing dyes and, coloring shaped plastics by spraying with)

IT Coloring
(of plastics (shaped) by spraying with dispersion of abrasive and dye)

IT C.I. Direct Green 6
(dispersions containing abrasives and, coloring shaped plastics by spraying with)

IT 9003-07-0, Propene polymers
(coloring of shaped, by spraying with dispersions of abrasives and dyes)

IT 9002-88-4, Ethylene polymers 9011-14-7, Methyl methacrylate polymers
(coloring shaped, by spraying with dispersions of abrasives and dyes)

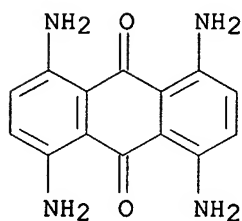
IT 60-09-3, C.I. Solvent Yellow 1 1658-56-6, C.I. Acid Red 88 2465-27-2, C.I. Basic Yellow 2 4203-77-4, [3,3'-Bianthra[1,9-cd]pyrazole]-6,6'-(1H,1'H)-dione, 1,1'-diethyl-
(dispersions containing abrasives and, coloring shaped plastics by spraying with)

IT 2475-45-8, Anthraquinone, 1,4,5,8-tetraamino-
(dispersions containing, coloring shaped **plastics** with)

IT 2475-45-8, Anthraquinone, 1,4,5,8-tetraamino-
(dispersions containing, coloring shaped **plastics** with)

RN 2475-45-8 HCAPLUS

CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)



L24 ANSWER 21 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1965:67171 HCAPLUS

DN 62:67171

OREF 62:11978d-e

TI Dyeing polypropylenes X

IN Green, Duane L.

PA E. I. du Pont de Nemours & Co.

SO 6 pp.

DT Patent

LA Unavailable

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI FR 1374042 19641002 FR
 US 3198596 1965 US
 PRAI US 19621106

AB Compns. containing 90-8 weight % crystallized polypropylene (I) and 2-10 weight %

H2O-insol. alkaline earth compound, such as a Mg, Ca, or Sr oxide, a Mg, Ba, Ca,

or Sr carbonate, a Ba, Ca, or Sr sulfate, or a Mg silicate, are treated with a 1-aminoanthraquinone or azo disperse dye, which does not contain CO2H, SO3H, or SO2NH2 groups. Thus, a mixture containing 95% I and 5% CaO (or SrO, MgCO3, BaCO3, BaSO4, CaCO3, CaSO4, SrCO3, or SrSO4) is treated for 1 hr. at 80° in 30 ml. of an aqueous suspension containing 1 weight % (of I) p-(p-O2NC6H4N:N)C6H4N(CH2CH2OH)2, 0.08 g./l. Na sulfate salt of an ethylene oxide-oleyl alc. condensate, and 0.25 g./l. Na3PO4 to give a clear lavender red.

IC C08F; D01F

CC 48 (Plastics Technology)

IT Dyeing

(of propene polymers, with 1-aminoanthraquinone or azo disperse dyes in presence of alkaline earth oxides or salts)

IT Alkaline earth oxides

Alkaline earth salts

(propene polymer dyeing with 1-aminoanthraquinone or azo disperse dyes in presence of)

IT 9003-07-0, Propene polymers

(dyeing of, with 2-aminoanthraquinone or azo disperse dyes in presence of alkaline earth Uoxides or salts)

IT 81-42-5, Anthraquinone, 1,4-diamino-2,3-dichloro- 81-49-2, Anthraquinone, 1-amino-2,4-dibromo- 82-28-0, Anthraquinone, 1-amino-2-methyl- 82-33-7, Anthraquinone, 1,4-diamino-5-nitro- 116-85-8, Anthraquinone, 1-amino-4-hydroxy- 1220-94-6, Anthraquinone, 1-amino-4-(methylamino)- 2379-90-0, Anthraquinone, 1-amino-4-hydroxy-2-methoxy- 2475-45-8, Anthraquinone, 1,4,5,8-tetraamino- 2734-52-3, C.I. Disperse Red 19 2832-40-8, C.I. Disperse Yellow 3 2872-47-1, Anthraquinone, 1-amino-4-chloro- 2872-48-2, Anthraquinone, 1,4-diamino-2-methoxy- 2872-50-6, 2-Anthramide, 1,4-diamino-9,10-dihydro- 9,10-dioxo- 2872-52-8, C.I. Disperse Red 1 86722-66-9, Anthraquinone, 1-[(2-hydroxyethyl)amino]-4-(methylamino)- 100154-44-7, Anthraquinone, 1-hydroxy(p-hydroxyanilino)-

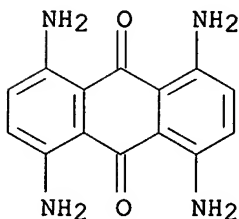
(propene polymers dyed with, in presence of alkaline earth oxides or salts)

IT 2475-45-8, Anthraquinone, 1,4,5,8-tetraamino-

(propene polymers dyed with, in presence of alkaline earth oxides or salts)

RN 2475-45-8 HCAPLUS

CN 9,10-Anthracenedione, 1,4,5,8-tetraamino- (9CI) (CA INDEX NAME)

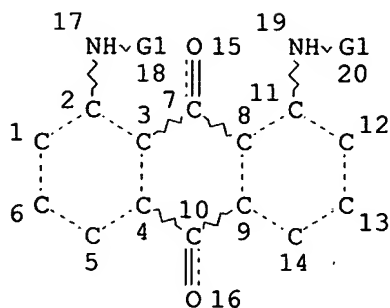


*Structure Search
Answers
limited to polymers*

=> => D QUE
L5

STR

Cb @21

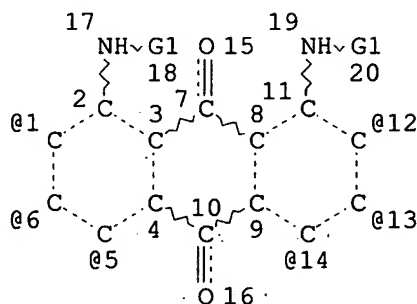


VAR G1=H/AK/21/HY/OH
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT IS SAT AT 21
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
L7 2858 SEA FILE=REGISTRY SSS FUL L5
L8 STR

G3 @24 Cb @21



O~G2
@22 23

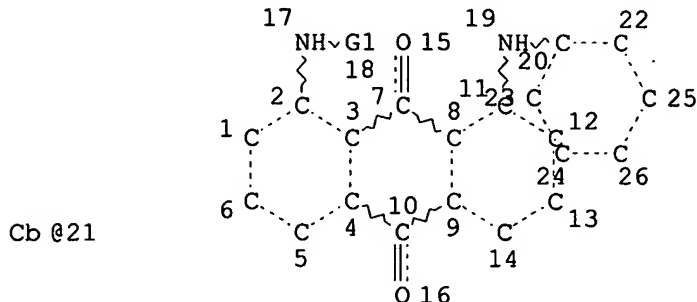
VAR G1=H/AK/21/HY/OH
VAR G2=AK/CB
VAR G3=OH/22
VPA 24-12/13/14/1/6/5 U
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT IS SAT AT 21
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I

NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L11 1598 SEA FILE=REGISTRY SUB=L7 SSS FUL L8
 L12 1260 SEA FILE=REGISTRY ABB=ON L7 NOT L11
 L13 STR



VAR G1=H/AK/21/HY/OH

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 21

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

L15 915 SEA FILE=REGISTRY SUB=L7 SSS FUL L13
 L16 785 SEA FILE=REGISTRY ABB=ON L12 NOT L15
 L18 770 SEA FILE=HCAPLUS ABB=ON L16
 L19 182 SEA FILE=HCAPLUS ABB=ON L18(L)PREP/RL
 L21 4 SEA FILE=HCAPLUS ABB=ON L19(L) (RESIN? OR POLYMER? OR PLASTIC?)

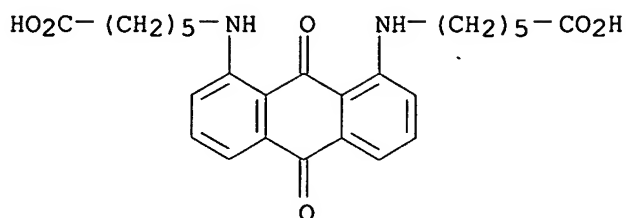
L35 10 SEA FILE=REGISTRY ABB=ON L16 AND PMS/CI
 L36 9 SEA FILE=HCAPLUS ABB=ON L35
 L37 7 SEA FILE=HCAPLUS ABB=ON (L21 OR L36) NOT L21

=> D L37 BIB ABS IND HITSTR 1-7

L37 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:681287 HCAPLUS
 DN 127:279466
 TI Synthesis of polycondensable anthraquinone dyes and colored nylon fibers:
 II
 AU Liu, Zhenguo; Cao, Weixiao; Sun, Yanhui; Su, Aaron C. L.; Liotta, Charles
 L.
 CS Department of Chemistry, Peking University, Beijing, 100871, Peop. Rep.
 China
 SO Polymer International (1997), 44(2), 134-136
 CODEN: PLYIEI; ISSN: 0959-8103
 PB Wiley
 DT Journal
 LA English
 AB Without addition of any metal ions or other catalysts, 1-chloroanthraquinone
 reacts readily with 6-aminocaproic acid or hexamethylenediamine in di-Me

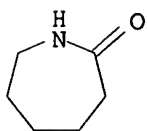
sulfone as solvent to give 1-(6-aminocaproic acid)anthraquinone and 1-[(6-aminohexyl)amino]anthraquinone, resp. 1,5-Dichloro- or 1,8-dichloroanthraquinone can also be used in this reaction to give bis-substituted derivs. of anthraquinone. As a kind of functional dye, which contains -COOH or -NH₂ groups and dissolves easily in nylon melts, the products were designed for preparing colored nylon by polycondensation with caprolactam or nylon 66 salt. Nylon fibers with different colors were obtained directly.

- CC 40-2 (Textiles and Fibers)
Section cross-reference(s): 41
- ST anthraquinone dye colored polyamide fiber; nylon fiber colored anthraquinone dye
- IT Polyamides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(anthraquinone-terminated; synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- IT Anthraquinone dyes
(synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- IT Polyamide fibers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- IT 196800-51-8P 196800-52-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(fiber; synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- IT 60-32-2 82-43-9, 1,8-Dichloroanthraquinone 82-44-0,
1-Chloroanthraquinone 82-46-2, 1,5-Dichloroanthraquinone 124-09-4,
1,6-Hexanediamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; in synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- IT 5525-28-0P 42189-52-6P 42189-53-7P 131011-90-0P 131011-91-1P
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- IT 25038-54-4DP, Nylon 6, anthraquinone-terminated 196800-53-0P
196800-54-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- IT 196800-51-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(fiber; synthesis of polycondensable anthraquinone dyes for preparation of colored nylon fibers)
- RN 196800-51-8 HCAPLUS
- CN Hexanoic acid, 6,6'-[(9,10-dihydro-9,10-dioxo-1,8-anthracenediyl)diimino]bis-, polymer with hexahydro-2H-azepin-2-one (9CI)
(CA INDEX NAME)
- CM 1
- CRN 42189-53-7
- CMF C26 H30 N2 O6



CM 2

CRN 105-60-2
CMF C6 H11 N O



RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:549454 HCAPLUS
DN 119:149454
TI Liquid developers containing colored polymers with a color chromophore covalently bound thereto
IN Ong, Beng S.; Croucher, Melvin D.; Wong, Raymond W.
PA Xerox Corp., USA
SO U.S., 19 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5200290	A	19930406	US 1990-590855	19901001
PRAI	US 1990-590855		19901001		

AB A liquid developer is described comprising a liquid medium, a charge control agent, a polymeric surfactant, and a colored core polymer. The copolymer may be $-\text{[(O-A-DYE-A-O-B)}_x\text{-(D-B)}_y\text{]}_n-$ [A = alkylene, arylene; B = CO, CORCO, CO₂RO₂C (R = A, polyether; D = dioxyalkane, dioxyarene; x = .01-1; yr = 0-.99; x + y = 1; n = number of monomer repeating units)]. The developer shows resistance to color smearing.

IC ICM G03G009-08
ICS G03G009-10

NCL 430115000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog developer smearing resistance; chromophoric polymer electrophotog developer

IT Electrophotographic developers
(containing colored polymers with covalently bound color chromophore)

IT Electrography

(developers, containing colored polymers with covalently bound color chromophore)

IT 121559-45-3 121559-47-5 121559-48-6 121578-06-1 149613-93-4
 149613-94-5 149613-95-6 149613-96-7 **149613-97-8**
 149613-98-9 149614-00-6 149614-01-7 149614-02-8 **149614-03-9**
 149614-04-0 149614-05-1 149614-06-2 149614-07-3 149614-75-5
 149614-76-6 149676-44-8

RL: USES (Uses)

(electrostatog. liquid developers containing)

IT **149613-97-8 149614-03-9**

RL: USES (Uses)

(electrostatog. liquid developers containing)

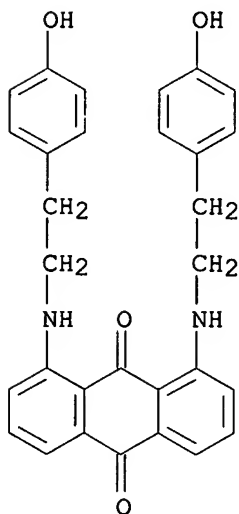
RN 149613-97-8 HCAPLUS

CN Carbonochloridic acid, oxydi-2,1-ethanediyl ester, polymer with
 1,8-bis[[2-(4-hydroxyphenyl)ethyl]amino]-9,10-anthracenedione and
 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 110086-71-0

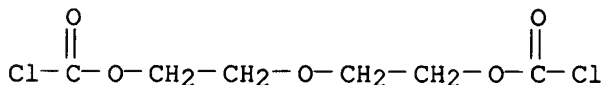
CMF C30 H26 N2 O4



CM 2

CRN 106-75-2

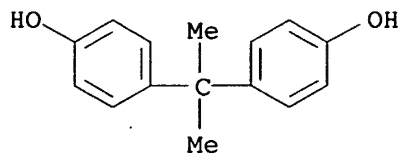
CMF C6 H8 Cl2 O5



CM 3

CRN 80-05-7

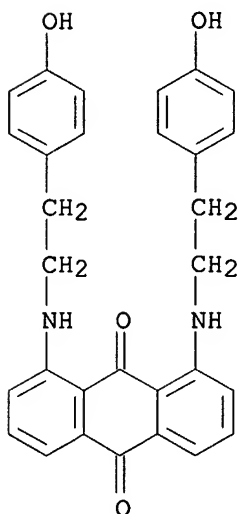
CMF C15 H16 O2



RN 149614-03-9 HCAPLUS
 CN Carbonochloridic acid, oxydi-2,1-ethanediyl ester, polymer with
 1,8-bis[[2-(4-hydroxyphenyl)ethyl]amino]-9,10-anthracenedione (9CI) (CA
 INDEX NAME)

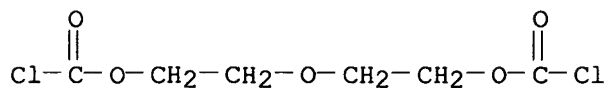
CM 1

CRN 110086-71-0
 CMF C30 H26 N2 O4



CM 2

CRN 106-75-2
 CMF C6 H8 Cl2 O5

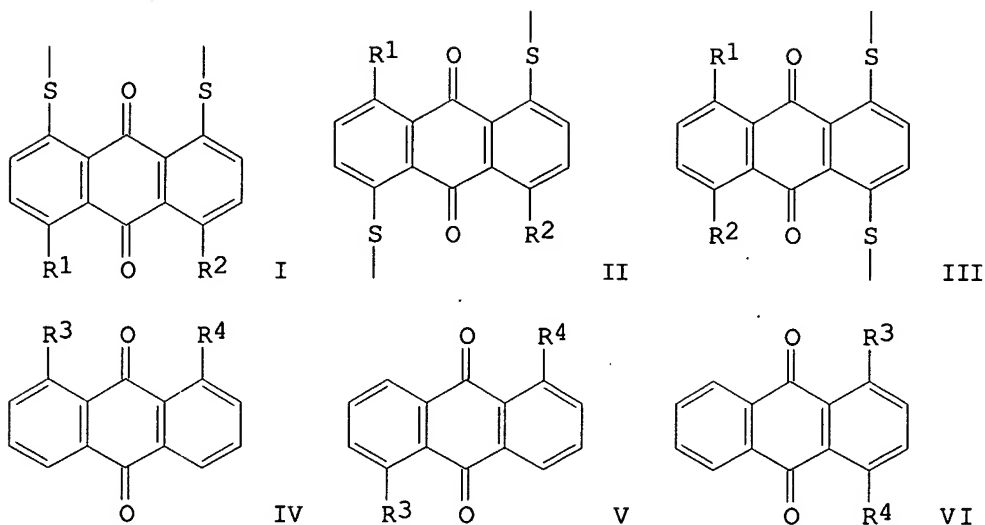


L37 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1989:448042 HCAPLUS
 DN 111:48042
 TI Electrophotographic toner containing polymeric dye
 IN Ong, Beng S.; Mychajlowski, Walter; Alexandru, Lupu

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

PA Xerox Corp., USA
 SO U.S., 12 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4778742	A	19881018	US 1987-105621	19871007
PRAI	US 1987-105621		19871007		
GI					



AB An electrophotog. toner comprises a resin binder and a polymeric dye having the general formula $(OZ_1DZ_2OZ_3)_n$ [Z_1 = alkylene, arylene; Z_2 = CO, COZ₃CO, COZ₂Z₃CO; Z_3 = alkylene, arylene, polyether group; D = dye moiety having the formula I-VI where R₁, R₂ = SCH₃, SC₂H₅, SC₆H₅; R₃, R₄ = NH(CH₂)_m, NHC₆H₄, NH(CH₂)_mC₆H₄, NHC₆H₄(CH₂)_m; m = 0-20; n = 2-100] and a number average mol. weight from 500 to 50,000. The Z₁ group in the polymeric dye

may be selected from the group comprising p-phenylene, m-phenylene, o-phenylene, p-benzylene, 1,8-octamethylene, and 3-methyl-1,4-butylene. An electrophotog. toner comprising the polymeric dye shows improved resistance to dye bleeding and aggregation and retains its color fidelity over extended time period.

IC ICM G03G009-08
 ICS G03G009-10
 NCL 430106000
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST electrophotog color toner polymeric dye; anthraquinone polymeric dye electrophotog toner
 IT Electrophotographic developers
 (toners, containing polymeric anthraquinone dyes)
 IT 121559-48-6 149614-76-6

RL: USES (Uses)

(blue electrophotog. toners containing).

- IT 15939-83-0P, 1,4-Bis(p-hydroxyphenylamino)anthraquinone 96969-83-4P,
 1,4-Bis[2-(p-hydroxyphenyl)ethylamino]anthraquinone 110086-69-6P,
 1,5-Bis(p-hydroxyphenylthio)anthraquinone 110086-70-9P,
 1,5-Bis(p-hydroxyphenylthio)-4,8-bis(phenylthio)anthraquinone
 110086-71-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and use of, as colorant for electrophotog. toners)

- IT 51-67-2, p-(2-Aminoethyl)phenol 81-64-1, Quinizarine 82-43-9,
 1,8-Dichloroanthraquinone 82-46-2, 1,5-Dichloroanthraquinone 108-98-5,
 Benzenethiol, reactions 123-30-8, p-Aminophenol 476-60-8,
 1,4,9,10-Anthracenetetrol 637-89-8, p-Hydroxybenzenethiol 6305-89-1,
 1,5-Dichloro-4,8-dinitroanthraquinone

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in preparing anthraquinone dye for electrophotog. toners)

- IT 121559-46-4 121559-47-5

RL: USES (Uses)

(red electrophotog. toners containing)

- IT 121538-95-2 121538-97-4 121538-98-5 121538-99-6
 121539-00-2 121539-01-3 121559-45-3 121578-06-1

RL: USES (Uses)

(yellow electrophotog. toners containing)

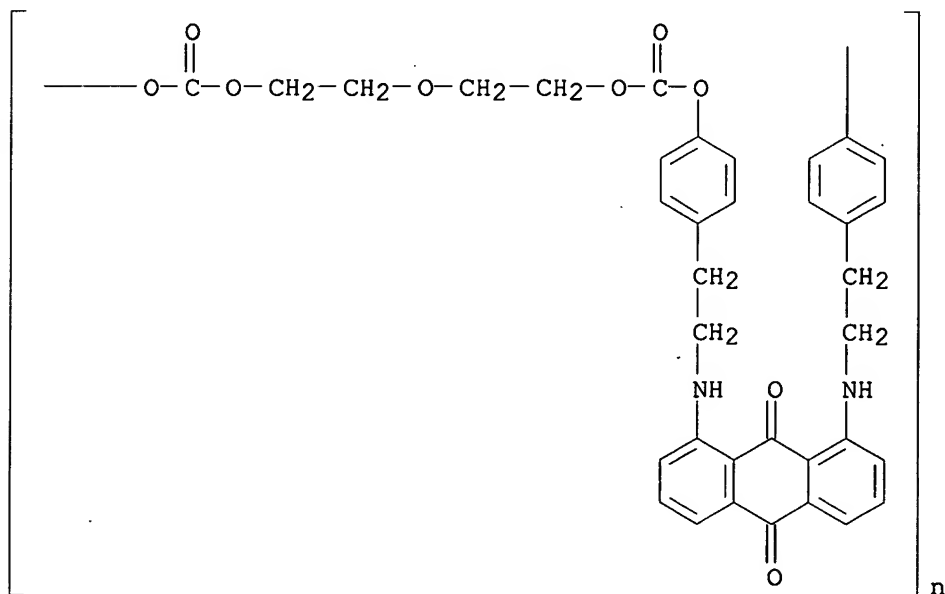
- IT 121559-46-4

RL: USES (Uses)

(red electrophotog. toners containing)

- RN 121559-46-4 HCAPLUS

- CN Poly[oxy-carbonyloxy-1,2-ethanediyl-oxy-1,2-ethanediyl-oxy-carbonyloxy-1,4-phenylene-1,2-ethanediylimino(9,10-dihydro-9,10-dioxo-1,8-anthracenediyl)imino-1,2-ethanediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



- IT 121538-98-5

RL: USES (Uses)

(yellow electrophotog. toners containing)

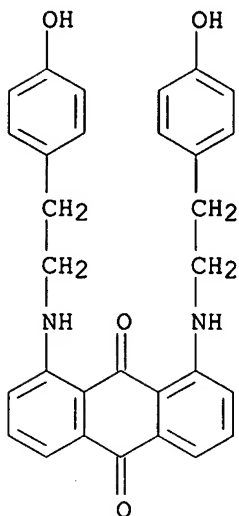
- RN 121538-98-5 HCAPLUS

CN 9,10-Anthracenedione, 1,8-bis[[2-(4-hydroxyphenyl)ethyl]amino]-, polymer with oxydi-2,1-ethanediyl bis(hydrogen carbonate) (9CI) (CA INDEX NAME)

CM 1

CRN 110086-71-0

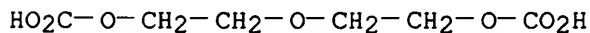
CMF C30 H26 N2 O4



CM 2

CRN 57557-13-8

CMF C6 H10 O7



L37 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1984:158203 HCAPLUS

DN 100:158203

TI N-Alkylation of aminoanthraquinones by acetaldehyde and chloral

AU Denisov, V. Ya.; Kolchina, E. F.; Grishchenkova, T. N.; Fokin, E. P.

CS Kemerov. Gos. Univ., Kemerovo, USSR

SO Zhurnal Organicheskoi Khimii (1984), 20(1), 137-42

CODEN: ZORKAE; ISSN: 0514-7492

DT Journal

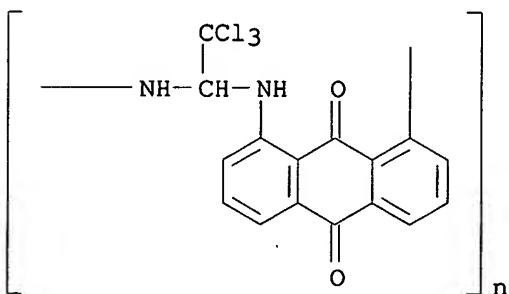
LA Russian

OS CASREACT 100:158203

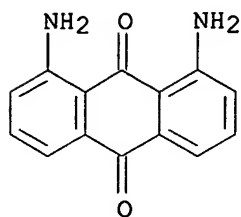
AB Condensation of 2-aminoanthraquinone [117-79-3] with MeCHO in the presence of oxalic acid gave β -(2-anthraquinonylamino)butyraldehyde [89734-94-1], and reactions of the 1,4-, 1,5-, and 1,8-diamine proceeded analogously but more readily. Condensation of 1-aminoanthraquinone [82-45-1] with Cl3CCH(OH)2 in the presence of ZnCl2 gave N,N'-(trichloroethylidene)bis(1-aminoanthraquinone) [89734-98-5], and the diamines gave polymeric analogs.

CC 41-9 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic

Sensitizers)
 Section cross-reference(s): 25
 ST aminoanthraquinone aldehyde condensation; anthraquinonediamine aldehyde condensation
 IT Infrared spectra
 Nuclear magnetic resonance
 (of aminoanthraquinone-aldehyde condensation products)
 IT Dyes, anthraquinone
 (intermediates, anthraquinonylaminobutyraldehydes, preparation and spectra of)
 IT 117-79-3 128-95-0 129-42-0 129-44-2
 RL: USES (Uses)
 (condensation of, with acetaldehyde)
 IT 302-17-0
 RL: USES (Uses)
 (condensation of, with aminoanthraquinones)
 IT 75-07-0, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (condensation of, with aminoanthraquinones)
 IT 82-45-1
 RL: USES (Uses)
 (condensation of, with chloral)
 IT 4170-30-3
 RL: USES (Uses)
 (condensation of, with diaminoanthraquinones)
 IT 89719-04-0P 89719-05-1P 89734-94-1P 89734-95-2P
 89734-96-3P 89734-97-4P 89734-98-5P 89823-10-9P 89823-11-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and spectra of)
 IT 89719-05-1P 89823-11-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and spectra of)
 RN 89719-05-1 HCAPLUS
 CN Poly[imino(2,2,2-trichloroethylidene)imino(9,10-dihydro-9,10-dioxo-1,8-anthracenediyl)] (9CI) (CA INDEX NAME)



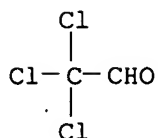
RN 89823-11-0 HCAPLUS
 CN Acetaldehyde, trichloro-, polymer with 1,8-diamino-9,10-anthracenedione
 (9CI) (CA INDEX NAME)
 CM 1
 CRN 129-42-0
 CMF C14 H10 N2 O2



CM 2

CRN 75-87-6

CMF C2 H Cl3 O



L37 ANSWER 5 OF 7 HCAPLUS · COPYRIGHT 2005 ACS on STN

AN 1976:5420 HCAPLUS

DN 84:5420

TI Polymers with a graphitic-type structure. II

AU Kellman, Raymond; Marvel, C. S.

CS Dep. Chem., Univ. Arizona, Tucson, AZ, USA

SO Journal of Polymer Science, Polymer Chemistry Edition (1975), 13(9), 2125-31

CODEN: JPLCAT; ISSN: 0449-296X

DT Journal

LA English

GI For diagram(s), see printed CA Issue.

AB 1,4,5,8-Tetraaminoanthraquinone-1,3,6,8-tetraoxo-1,2,3,6,7,8-hexahydropyrene copolymer [36313-62-9] was prepared with improved purity by using purer tetraketone and polymerization at lower temps. for a longer

time. Using polyphosphoric acid as solvent prepolymer was obtained as a shiny black granular solid in approx. 84% yield and was approx. 70% soluble in methanesulfonic acid. The graphitic-type polymer structure (I) was obtained by heating at >340° under high vacuum for approx. 2-5 days. Heat treatment to partial or complete ring closure was carried out on the prepared granular solid or on a film cast from methanesulfonic acid solution

CC 35-3 (Synthetic High Polymers)

Section cross-reference(s): 26

ST ladder polymer graphitic structure; tetraaminoanthraquinone tetraketohexahydropyrene copolymer

IT Ring closure and formation

(in polymerization, of tetraaminoanthraquinone with hexahydropyrenetetrone)

IT Polymerization

(of tetraaminoanthraquinone with hexahydropyrenetetrone, solvents for)

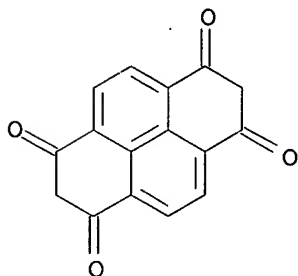
IT 2475-45-8P 35147-76-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)
 IT 36313-62-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, with graphitic structure)
 IT 81-30-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diethyl malonate)
 IT 105-53-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with naphthalenetetracarboxylic dianhydride)
 IT 36313-62-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, with graphitic structure)
 RN 36313-62-9 HCAPLUS
 CN 1,3,6,8(2H,7H)-Pyrenetetrone, polymer with 1,4,5,8-tetraamino-9,10-anthracenedione (9CI) (CA INDEX NAME)

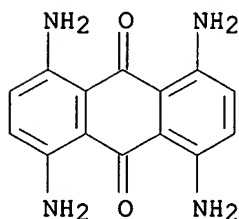
CM 1

CRN 35147-76-3
 CMF C16 H8 O4



CM 2

CRN 2475-45-8
 CMF C14 H12 N4 O2



L37 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1972:420112 HCAPLUS
 DN 77:20112
 TI New thermally stable polymer with a graphite-type structure
 AU Hurley, S. A.; Dutt, Prabir K.; Marvel, C. S.
 CS Dep. Chem., Univ. Arizona, Tucson, AZ, USA

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

SO Journal of Polymer Science, Polymer Chemistry Edition (1972), 10(4),
1243-61
CODEN: JPLCAT; ISSN: 0449-296X

DT Journal
LA English

AB 1,4,5,8-Tetraaminoanthraquinone [2475-45-8] was condensed with
1,3,6,8-tetraketo-1,2,3,6,7,8-hexahydropyrene [35147-76-3] to form
open-structured prepolymers having inherent viscosity 0.4, which were
heated to obtain a closed-ring, thermally stable polymer with a
graphite-like structure [poly(phenaleno[1,2,3-i,j]anthra[1,9,8-cdef:4,10,5-
c'd'e'f']di[2,7]naphthyridine-2,3:10,11-tetrayl) (I) [34557-83-0]]. The
prepolymers were soluble in MeSO₃H and partially soluble in H₂SO₄, but the
polymers were insol. in the acids. Prepolymers having inherent viscosity
0.11-1.58 had low acid solubility. The acid-soluble prepolymers were
solubilized
by reduction with Na₂S₂O₄ in an alkaline, aqueous AcNMe₂. The highest mol.
weight
prepolymer (inherent viscosity 1.30-1.58) was solubilized to a greater
degree in the base mixture than in MeSO₃H, but was not completely soluble

CC 35-3 (Synthetic High Polymers)

ST aminoanthraquinone hydropyrene polymer; anthraquinone amino hydropyrene
polymer

IT Heat-resistant materials
(hexahydropyrenetetraone-tetraaminoanthraquinone polymers, cyclized)

IT Ring closure and formation
(of tetraaminoanthraquinone-hexahydropyrenetetraone polymers, heat
resistance in relation to)

IT 34557-83-0
RL: PRP (Properties)
(heat resistance of)

IT 129-30-6P 2475-45-8P 10262-79-0P 35147-76-3P 37686-96-7P
37686-97-8P 37686-98-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 36313-62-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclized, heat-resistant)

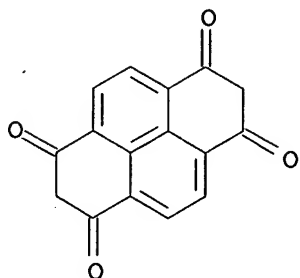
IT 36313-62-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclized, heat-resistant)

RN 36313-62-9 HCAPLUS

CN 1,3,6,8(2H,7H)-Pyrenetetrone, polymer with 1,4,5,8-tetraamino-9,10-
anthracenedione (9CI) (CA INDEX NAME)

CM 1

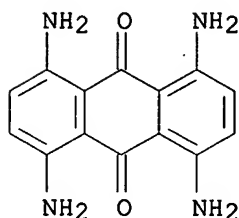
CRN 35147-76-3
CMF C16 H8 O4



CM 2

CRN 2475-45-8

CMF C14 H12 N4 O2



L37 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1972:127779 HCAPLUS

DN 76:127779

TI Polymer with graphite-type structure prepared from tetraaminoanthraquinone and naphthalene-1,8,4,5-diindandione

IN Marvel, Carl S.; Bracke, William; Dutt, Prabir K.

PA Research Corp.

SO U.S., 3 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3635896	A	19720118	US 1969-884612	19691212
PRAI	US 1969-884612	A	19691212		

AB Poly(phenaleno[1,2,3-i,j]anthra[1,9,8-cdef:4,10,5-c'd'e'f']di[2,7]naphthyridine-2,3:10,11-tetrayl) (I) [34557-83-0] was prepared by stepwise condensation, then spun into heat resistant fibers or cast as a film. Thus, 1,4,5,8-tetraaminoanthraquinone and naphthalene-1,8,4,5-diindandione, prepared, were mixed in a HOAc-AcNMe₂ mixture or polyphosphoric acid, and heated under N to give a prepolymer (II) which was extracted with alc., then AcNMe₂, and heated in vacuo to give I. II in aqueous 80:10:10 Me₂SO-Na₂S₂O₄-KOH, or in concentrated H₂SO₄ was spun into fibers.

IC C08G

NCL 260065000

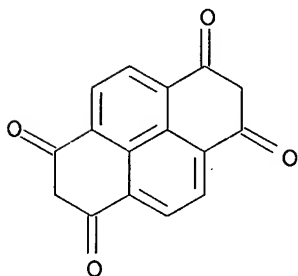
CC 35 (Synthetic High Polymers)

ST polyphenalenoanthradinaphthyridinetetrayl; aminoanthraquinone
 naphthalenediindandione polycondensation; fiber forming graphitic polymer;
 film forming graphitic polymer; heat resistant graphitic polymer
 IT Ring closure and formation
 (in polymerization, of naphthalene diindandione with
 tetraaminoanthraquinone)
 IT Heat-resistant materials
 Synthetic fibers
 RL: USES (Uses)
 (naphthalene diindandione-tetraaminoanthraquinone polymers)
 IT Polymerization
 (ring closure in, of naphthalene diindandione with
 tetraaminoanthraquinone)
 IT 34557-83-0P **36313-62-9P**
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (manufacture of, heat-resistant fibers)
 IT **36313-62-9P**
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (manufacture of, heat-resistant fibers)
 RN 36313-62-9 HCAPLUS
 CN 1,3,6,8(2H,7H)-Pyrenetetron, polymer with 1,4,5,8-tetraamino-9,10-
 anthracenedione (9CI) (CA INDEX NAME)

CM 1

CRN 35147-76-3

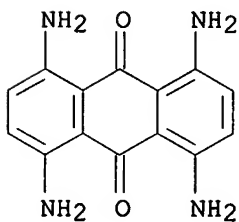
CMF C16 H8 O4



CM 2

CRN 2475-45-8

CMF C14 H12 N4 O2



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